## 13.7587300 AP6 Rec'd PCT/PTO 26 JUL 2006

## SEQUENCE LISTING

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Tyr Ser Leu Val Ser Val Pro Glu Gly Asn Asp Ile Ser Ser Ile Phe
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Glu Leu Asp Pro Thr Thr Leu Arg Gly Gly Asp Ser Leu Val Pro Arg
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Gly His Asn Ile Tyr Ile Leu Ala His Gln Leu Ala Arg H 2115 2120 2125  Glu Leu Gln Thr Met Leu Lys Pro Gly Gly Gln Val Asp G 2130 2135 2140  Ala Leu Glu Phe Tyr Ala Lys His Thr Ala Gln Ile Glu I 2145 2150 2155	is Asn Lys ly Asp Glu le Val Arg 2160
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T.011	Trn	Thr			Len	Tle	Ser			Tle	Val	Ile	Δla	T.e.11	Dro
LCu	ııp	2275		MCC	пси	110	2280		ALU	110	vai	2285		пси	110
_	_				•					<b>a</b>	m)			3	<b>.</b>
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a1	mb	Dha	mb se			TT	7	ח ד ת			T 011	7 ~~	1707		
GLY	TIII	Pile		_	GIY	TÀT	Arg			vaı	neu	Asp			Pile
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тте	TTE	ьėп	Tnr			ьeu	Ата	Leu			vaı	Tyr	ьeu		
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Λαn	Nan			Тиг	Car	λαη			λνα	Val	Glu	Thr		Glu	λαπ
HOII	_		цец	ıyı	Jer	_		Cys	AI 9	vai			GIY	Giu	A511
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Lys Lys Glu 2625	Lys Arg Glu Val 2610 Met	Lys Asp Glu 2599 Lys Ile	Glu Lys 2580 His Asp	Glu 2565 Phe ) Asn Ser	2550 Ile Asp Met Thr Arg 2630	Asp Leu Asn Trp Glu 2619 Asn	Thr Lys Lys His 2600 Tyr Leu	Thr 2585 Tyr Thr Asp	Thr 2570 Val Leu Gly	2555 Cys Thr Cys Pro	Phe Phe Glu 2620 Pro	Arg Ile Glu Ile 2605 Ser	Cys Glu 2590 Val Tyr Met	Gly 2575 His Leu Val	2560 Leu Ile Val Ala Ala 2640
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Lys Lys Glu 2625 Met	Lys Arg Glu Val 2610 Met Ser	Lys Asp Glu 2599 Lys Ile Leu	Glu Lys 2580 His Asp Arg Val	Glu 2565 Phe ) Asn Ser Glu Ser 2645 Lys	2550 Ile Asp Met Thr Arg 2630 Ser	Asp Leu Asn Trp Glu 2619 Asn )	Lys Lys His 2600 Tyr Leu Ser	Thr 2589 Tyr Thr Asp Glu Thr	Thr 2570 Val Leu Gly Trp Gly 2650	2555 Cys Thr Cys Pro Phe 2635 Glu	Phe Phe Clu 2620 Pro Gln	Arg Ile Glu Ile 2605 Ser Arg	Cys Glu 2590 Val Tyr Met Glu	Gly 2575 His Leu Val Arg Leu 2655 Asn	2560 Leu Ile Val Ala Ala 2640 Arg
Lys Lys Glu 2625 Met Asn	Lys Arg Glu Val 2610 Met Ser Leu	Lys Asp Glu 2595 Lys Ile Leu Gln	Glu Lys 2580 His Asp Arg Val Glu 2660	Glu 2565 Phe ) Asn Ser Glu Ser 2645 Lys	2550 Ile Asp Met Thr Arg 2630 Ser	Asp Leu Asn Trp Glu 2619 Asn Asp Glu	Lys Lys His 2600 Tyr Leu Ser	Thr 2589 Tyr Thr Asp Glu Thr 2669	Thr 2570 Val Leu Gly Trp Gly 2650 Met	2555 Cys Thr Cys Pro Phe 2635 Glu	Leu Phe Phe Glu 2620 Pro Gln Leu	Arg Ile Glu Ile 2605 Ser Arg Asn	Glu 2590 Val Tyr Met Glu	Gly 2575 His Leu Val Arg Leu 2655 Asn	2560 Leu Ile Val Ala Ala 2640 Arg

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                            40
Pro Pro Lys Lys Phe Arg Asp Cys Leu Phe Lys Leu Cys Pro Met Asn
Arq Tyr Ser Ala Gln Lys Gln Phe Trp Lys Ala Ala Lys Pro Gly Ala
                    70
Asn Ser Thr Thr Asp Ala Val Leu Leu Asn Lys Leu His His Ala Ala
                                    90
Asp Leu Glu Lys Lys Gln Asn Glu Thr Glu Asn Arg Lys Leu Leu Gly
                              . 105
Thr Val Ile Gln Tyr Gly Asn Val Ile Gln Leu Leu His Leu Lys Ser
                            120
                                                125
Asn Lys Tyr Leu Thr Val Asn Lys Arg Leu Pro Ala Leu Leu Glu Lys
                        135
Asn Ala Met Arg Val Thr Leu Asp Glu Ala Gly Asn Glu Gly Ser Trp
                    150
                                        155
Phe Tyr Ile Gln Pro Phe Tyr Lys Leu Arg Ser Ile Gly Asp Ser Val
                165
                                   170
Val Ile Gly Asp Lys Val Val Leu Asn Pro Val Asn Ala Gly Gln Pro
                                185
Leu His Ala Ser Ser His Gln Leu Val Asp Asn Pro Gly Cys Asn Glu
                            200
                                                205
Val Asn Ser Val Asn Cys Asn Thr Ser Trp Lys Ile Val Leu Phe Met
                        215
                                            220
Lys Trp Ser Asp Asn Lys Asp Asp Ile Leu Lys Gly Asp Val Val
                                        235
                    230
Arg Leu Phe His Ala Glu Glu Glu Lys Phe Leu Thr Cys Asp Glu His
                                    250
                245
Arg Lys Lys Gln His Val Phe Leu Arg Thr Thr Gly Arg Gln Ser Ala
                                265
Thr Ser Ala Thr Ser Ser Lys Ala Leu Trp Glu Val Glu Val Val Gln
                            280
His Asp Pro Cys Arg Gly Gly Ala Gly Tyr Trp Asn Ser Leu Phe Arg
                        295
                                            300
Phe Lys His Leu Ala Thr Gly His Tyr Leu Ala Ala Glu Val Asp Pro
                    310
                                        315
Asp Phe Glu Glu Glu Cys Leu Glu Phe Gln Pro Ser Val Asp Pro Asp
               325
                                    330
Gln Asp Ala Ser Arg Ser Arg Leu Arg Asn Ala Gln Glu Lys Met Val
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345

340

Tyr Ser Leu Val Ser Val Pro Glu Gly Asn Asp Ile Ser Ser Ile Phe Glu Leu Asp Pro Thr Thr Leu Arg Gly Gly Asp Ser Leu Val Pro Arg Asn Ser Tyr Val Arg Leu Arg His Leu Cys Thr Asn Thr Trp Val His Ser Thr Asn Ile Pro Ile Asp Lys Glu Glu Glu Lys Pro Val Met Leu Lys Ile Gly Thr Ser Pro Leu Lys Glu Asp Lys Glu Ala Phe Ala Ile Val Pro Val Ser Pro Ala Glu Val Arg Asp Leu Asp Phe Ala Asn Asp Ala Ser Lys Val Leu Gly Ser Ile Ala Gly Lys Leu Glu Lys Gly Thr Ile Thr Gln Asn Glu Arg Arg Ser Val Thr Lys Leu Leu Glu Asp Leu Val Tyr Phe Val Thr Gly Gly Thr Asn Ser Gly Gln Asp Val Leu Glu Val Val Phe Ser Lys Pro Asn Arg Glu Arg Gln Lys Leu Met Arg Glu Gln Asn Ile Leu Lys Gln Ile Phe Lys Leu Leu Gln Ala Pro Phe Thr Asp Cys Gly Asp Gly Pro Met Leu Arg Leu Glu Glu Leu Gly Asp Gln Arg His Ala Pro Phe Arg His Ile Cys Arg Leu Cys Tyr Arg Val Leu Arg His Ser Gln Gln Asp Tyr Arg Lys Asn Gln Glu Tyr Ile Ala Lys Gln Phe Gly Phe Met Gln Lys Gln Ile Gly Tyr Asp Val Leu Ala Glu Asp Thr Ile Thr Ala Leu Leu His Asn Asn Arg Lys Leu Leu Glu Lys His Ile Thr Ala Ala Glu Ile Asp Thr Phe Val Ser Leu Val Arg Lys Asn Arg Glu Pro Arg Phe Leu Asp Tyr Leu Ser Asp Leu Cys Val Ser Met Asn Lys Ser Ile Pro Val Thr Gln Glu Leu Ile Cys Lys Ala Val Leu Asn Pro Thr Asn Ala Asp Ile Leu Ile Glu Thr Lys Leu Val Leu Ser Arg Phe Glu Phe Glu Gly Val Ser Thr Gly Glu Asn Ala Leu Glu Ala Gly Glu Asp Glu Glu Glu Val Trp Leu Phe Trp Arg Asp Ser Asn Lys Glu Ile Arg Ser Lys Ser Val Arg Glu Leu Ala Gln Asp Ala Lys Glu Gly Gln Lys Glu Asp Arg Asp Val Leu Ser Tyr Tyr Arg Tyr Gln Leu Asn Leu Phe Ala Arg Met Cys Leu Asp Arg Gln Tyr Leu Ala Ile Asn Glu Ile Ser Gly Gln Leu Asp Val Asp Leu Ile Leu Arg Cys Met Ser Asp Glu Asn Leu Pro Tyr Asp Leu Arg Ala Ser Phe Cys Arg Leu Met Leu His Met His Val Asp Arg Asp Pro Gln Glu Gln Val Thr Pro Val Lys Tyr Ala Arg Leu Trp Ser Glu Ile Pro Ser Glu Ile Ala Ile Asp Asp Tyr Asp Ser Ser Gly Ala Ser Lys Asp Glu Ile Lys Glu Arg Phe Ala Gln Thr Met Glu Phe Val Glu Glu Tyr Leu Arg Asp Val Val

835			840					845			
Cys Gln Arg F 850	Phe Pro	Phe Ser 855	Asp I	Lys (	3lu		Asn 860	Lys	Leu	Thr	Phe
Glu Val Val A 865		Ala Arg 870	Asn I	Leu 1		Tyr 875	Phe	Gly	Phe	Tyr	Asn 880
Phe Ser Asp I	Leu Leu 1 885	Arg Leu	Thr I	_	Ile 890	Leu	Leu	Ala	Ile	Leu 895	Asp
Cys Val His V	/al Thr'	Thr Ile		Pro 1 905	Ile	Ser	Lys	Met	Thr 910	Lys	Gly
Glu Glu Asn I 915	Lys Gly	Ser Asn	Val N 920	Met A	Arg	Ser	Ile	His 925	Gly	Val	Gly
Glu Leu Met 1 930		935		_		_	940				
Thr Pro Met A	!	950				955					960
Glu Lys Glu A	965			_ 9	970	_		_		975	
-	980		9	985		_	_		990		_
Leu Leu Cys I			1000					1005			
Ser Glu Thr S		1015	5				1020				
Pro Gly Ala I	:	1030				1035					1040
Phe Gly Gly S	1045			1	1050					1055	5
	L060	_		1065					1070	}	_
Pro Pro Leu V 1075			1080					1085	1		
Gln Arg Gln G 1090	-	1095	5		_		1100	)			
Thr Ser Gln A		1110				1115					1120
Gln Cly Pro	1125			3	1130					1135	5
Gln Gly Pro A 1 Lys Lys Thr G	L140		-	1145					1150	)	
1155 Ser Ser Tyr A			1160				_	1165	;		
1170 Lys Leu Cys V		1175	5				1180	1			
1185 Gln Gln Arg I		1190				1195					1200
oin oin Aig i	1205		Met (		1210		Ата	vai	vai	1215	
Leu Leu Gln 1	lle Pro' 1220	Tyr Glu	_	Ala ( 1225	Glu	Asp	Thr	Lys	Met 1230		Glu
Ile Met Arg I 1235	Leu Ala	His Glu	Phe I 1240	Leu (	Gln	Asn	Phe	Cys 1245		Gly	Asn
Gln Gln Asn C 1250	3ln Ala 1	Leu Leu 1255		Lys I	His	Ile	Asn 1260		Phe	Leu	Asn
Pro Gly Ile I 1265		Ala Val 1270	Thr !	Met (	Gln	His 1275		Phe	Met	Asn	Asn 1280
Phe Gln Leu (		Glu Ile	Asn (		Arg 1290	Val		Gln	His	Phe 1295	Val
His Cys Ile C	Glu Thr						Tyr	Ile	Lys 1310	Phe	
Gln Thr Ile V	1300								TOT	,	

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Met Val Met Ala Glu Leu Val Asn Ser Gly Glu Asp Val Leu Val Phe
                    1335
                                    1340
Tyr Asn Asp Arg Ala Ser Phe Gln Thr Leu Ile Gln Met Met Arg Ser
                1350
                                 1355
Glu Arg Asp Arg Met Asp Glu Asn Ser Pro Leu Phe Met Tyr His Ile
                             1370
             1365
His Leu Val Glu Leu Leu Ala Val Cys Thr Glu Gly Lys Asn Val Tyr
                          1385
         1380
Thr Glu Ile Lys Cys Asn Ser Leu Leu Pro Leu Asp Asp Ile Val Arg
                      1400
                                       1405
Val Val Thr His Glu Asp Cys Ile Pro Glu Val Lys Ile Ala Tyr Ile
          1415
                                    1420
Asn Phe Leu Asn His Cys Tyr Val Asp Thr Glu Val Glu Met Lys Glu
                      1435
               1430
Ile Tyr Thr Ser Asn His Met Trp Lys Leu Phe Glu Asn Phe Leu Val
            1445 1450
Asp Ile Cys Arq Ala Cys Asn Asn Thr Ser Asp Arg Lys His Ala Asp
                         1465
Ser Val Leu Glu Lys Tyr Val Thr Glu Ile Val Met Ser Ile Val Thr
                      1480
Thr Phe Phe Ser Ser Pro Phe Ser Asp Gln Ser Thr Thr Leu Gln Thr
                   1495
                                    1500
Arq Gln Pro Val Phe Val Gln Leu Leu Gln Gly Val Phe Arg Val Tyr
       1510 : 1515
His Cys Asn Trp Leu Met Pro Ser Gln Lys Ala Ser Val Glu Ser Cys
            1525 1530
Ile Arg Val Leu Ser Asp Val Ala Lys Ser Arg Ala Ile Ala Ile Pro
         1540
                         1545
Val Asp Leu Asp Ser Gln Val Asn Asn Leu Phe Leu Lys Ser His Asn
                      1560
Ile Val Gln Lys Thr Ala Met Asn Trp Arg Leu Ser Ala Arg Asn Ala
                   1575
                                    1580
Ala Arg Arg Asp Glu Val Leu Ala Ala Ser Arg Asp Tyr Arg Asn Ile
               1590
                                1595
Ile Glu Arg Leu Gln Asp Ile Val Ser Ala Leu Glu Asp Arg Leu Arg
                             1610 1615
            1605
Pro Leu Val Gln Ala Glu Leu Ser Val Leu Val Asp Val Leu His Arg
         1620 1625
Pro Glu Leu Leu Phe Pro Glu Asn Thr Asp Ala Arg Arg Lys Cys Glu
                      164.0
     1635
Ser Gly Gly Phe Ile Cys Lys Leu Ile Lys His Thr Lys Gln Leu Leu
                   1655
                                    1660
Glu Glu Asn Glu Glu Lys Leu Cys Ile Lys Val Leu Gln Thr Leu Arg
                1670
                                1675
Glu Met Met Thr Lys Asp Arg Gly Tyr Gly Glu Lys Gln Ile Ser Ile
            1685
                             1690
Asp Glu Leu Glu Asn Ala Glu Leu Pro Gln Pro Pro Glu Ala Glu Asn
         1700
                          1705
                                           1710
Ser Thr Glu Glu Leu Glu Pro Ser Pro Pro Leu Arg Gln Leu Glu Asp
                      1720
                                        1725
     1715
His Lys Arg Gly Glu Ala Leu Arg Gln Ile Leu Val Asn Arg Tyr Tyr
          1735
                                    1740
  1730
Gly Asn Ile Arg Pro Ser Gly Arg Arg Glu Ser Leu Thr Ser Phe Gly
       1750
                                1755
Asn Gly Pro Leu Ser Pro Gly Gly Pro Ser Lys Pro Gly Gly Gly
             1765
                             1770
Gly Gly Pro Gly Ser Gly Ser Thr Ser Arg Gly Glu Met Ser Leu Ala
                          1785
         1780
Glu Val Gln Cys His Leu Asp Lys Glu Gly Ala Ser Asn Leu Val Ile
      1795 1800
Asp Leu Ile Met Asn Ala Ser Ser Asp Arg Val Phe His Glu Ser Ile
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1810		1815		1820	)		
Leu Leu Ala Ile 1825	Ala Leu 1 1830		Gly Gly	Asn Thr 1835	Thr I		His 1840
Ser Phe Phe Cys		Thr Glu	Asp Lys · 1850	Lys Ser	Glu Ly		Phe
Lys Val Phe Tyr 1860	Asp Arg						
Thr Val Thr Val		Ser Asp 1880	Leu Gly	Asn Lys			Asp
Glu Val Asp Arg 1890				Lys Ala 1900	Lys G	lu Pro	Thr
Thr Gln Ile Thr		Val Arg	Asp Gln				Ala 1920
Ala Thr Arg Lys			Phe Arg		Ala As		
	1925		1930			1935	
Asp His Tyr Gln 1940	)	_	1945		19	950	
Lys Asp Asp Leu 1955		1960			1965		
Leu Arg Phe Leu 1970		1975		1980	)		
Asn Phe Leu Arg	Cys Gln 1		Lys Thr	Asn Tyr 1995	Asn Le		Cys 2000
Glu Thr Leu Gln			Ile Cys 2010	Gly Ser	Thr T		Gly
Leu Gly Leu Leu 2020	Gly Leu '		Asn Glu				
Asn Gln Thr Leu 2035			Glu Tyr				His
Glu Asn Gln Asn 2050	=			Ser Asn 2060	Gly I	le Asp	Ile
Ile Thr Ala Leu	Ile Leu	Asn Asp	Ile Asn	Pro Leu		_	_
							2080
2065 Met Asp Leu Val					Lys Le	eu Leu	Leu
Met Asp Leu Val Ala Ile Met Glu	Leu Glu 1 2085 Ser Arg 1	Leu Lys His Asp	2090 Ser Glu	Ala Ser Asn Ala	Glu A	eu Leu 2095 rg Ile	Leu
Met Asp Leu Val Ala Ile Met Glu 2100 Tyr Asn Met Arg	Leu Glu 1 2085 Ser Arg 1	Leu Lys His Asp Glu Leu	2090 Ser Glu 2105 Val Glu	Ala Ser Asn Ala	Glu Ar 2: Lys Ly	eu Leu 2095 rg Ile 110	Leu Leu
Met Asp Leu Val Ala Ile Met Glu 2100	Leu Glu 1 2085 Ser Arg 1 ) Pro Lys (	Leu Lys His Asp Glu Leu 2120	2090 Ser Glu 2105 Val Glu	Ala Ser Asn Ala Val Ile	Glu Ar 2: Lys Ly 2125	eu Leu 2095 rg Ile 110 ys Ala	Leu Leu Tyr
Met Asp Leu Val  Ala Ile Met Glu 2100  Tyr Asn Met Arg 2115  Met Gln Gly Glu 2130	Leu Glu 1 2085 Ser Arg 1 Pro Lys (	Leu Lys His Asp Glu Leu 2120 Phe Glu 2135	2090 Ser Glu 2105 Val Glu Asp Gly	Ala Ser Asn Ala Val Ile Glu Asn 2140	Glu Ar 2: Lys Ly 2125 Gly Gl	eu Leu 2095 rg Ile 110 ys Ala lu Asp	Leu Leu Tyr Gly
Met Asp Leu Val  Ala Ile Met Glu 2100  Tyr Asn Met Arg 2115  Met Gln Gly Glu 2130  Ala Ala Ser Pro 2145	Leu Glu 1 2085 Ser Arg 1 Pro Lys ( Val Glu 1 Arg Asn 1 2150	Leu Lys His Asp Glu Leu 2120 Phe Glu 2135 Val Gly	2090 Ser Glu 2105 Val Glu Asp Gly His Asn	Ala Ser Asn Ala Val Ile Glu Asn 2140 Ile Tyr 2155	Glu An 2: Lys Ly 2125 Gly G: )	eu Leu 2095 rg Ile 110 ys Ala lu Asp	Leu Tyr Gly His 2160
Met Asp Leu Val  Ala Ile Met Glu 2100  Tyr Asn Met Arg 2115  Met Gln Gly Glu 2130  Ala Ala Ser Pro	Leu Glu 1 2085 Ser Arg 1 Pro Lys ( Val Glu 1 Arg Asn 2 2150 His Asn 1	Leu Lys His Asp Glu Leu 2120 Phe Glu 2135 Val Gly	2090 Ser Glu 2105 Val Glu Asp Gly His Asn Leu Gln	Ala Ser Asn Ala Val Ile Glu Asn 2140 Ile Tyr 2155 Thr Met	Glu An 2: Lys Ly 2125 Gly G: )	eu Leu 2095 rg Ile 110 ys Ala lu Asp eu Ala ys Pro	Leu Leu Tyr Gly His 2160
Met Asp Leu Val  Ala Ile Met Glu 2100  Tyr Asn Met Arg 2115  Met Gln Gly Glu 2130  Ala Ala Ser Pro 2145	Leu Glu 1 2085 Ser Arg 1 Pro Lys ( Val Glu 1 Arg Asn 2 2150 His Asn 1 2165 Gly Asp (	Leu Lys His Asp Glu Leu 2120 Phe Glu 2135 Val Gly Lys Glu	2090 Ser Glu 2105 Val Glu Asp Gly His Asn Leu Gln 2170 Leu Glu	Ala Ser Asn Ala Val Ile Glu Asn 2140 Ile Tyr 2155 Thr Met	Glu Ar 21 Lys Ly 2125 Gly Gl ) Ile Le Leu Ly	eu Leu 2095 rg Ile 110 ys Ala lu Asp eu Ala ys Pro 2175	Leu Tyr Gly His 2160 Gly
Met Asp Leu Val  Ala Ile Met Glu 2100 Tyr Asn Met Arg 2115 Met Gln Gly Glu 2130 Ala Ala Ser Pro 2145 Gln Leu Ala Arg Gly Gln Val Asp 2180 Ala Gln Ile Glu	Leu Glu 1 2085 Ser Arg 1 Pro Lys ( Val Glu 1 Arg Asn 2 2150 His Asn 1 2165 Gly Asp (	Leu Lys His Asp Glu Leu 2120 Phe Glu 2135 Val Gly Lys Glu Glu Ala Arg Leu	Ser Glu 2105 Val Glu Asp Gly His Asn Leu Gln 2170 Leu Glu 2185 Asp Arg	Ala Ser Asn Ala Val Ile Glu Asn 2140 Ile Tyr 2155 Thr Met Phe Tyr	Glu Ar 2: Lys Ly 2125 Gly Gl ) Ile Le Leu Ly Ala Ly 2: Glu Gl	eu Leu 2095 rg Ile 110 ys Ala lu Asp eu Ala ys Pro 2175 ys His	Leu Tyr Gly His 2160 Gly
Met Asp Leu Val  Ala Ile Met Glu 2100 Tyr Asn Met Arg 2115 Met Gln Gly Glu 2130 Ala Ala Ser Pro 2145 Gln Leu Ala Arg Gly Gln Val Asp 2180	Leu Glu 1 2085 Ser Arg 1 Pro Lys ( Val Glu 1 Arg Asn 2 2150 His Asn 1 2165 Gly Asp ( Ile Val A	Leu Lys His Asp Glu Leu 2120 Phe Glu 2135 Val Gly Lys Glu Glu Ala Arg Leu 2200 Cys Glu	2090 Ser Glu 2105 Val Glu Asp Gly His Asn Leu Gln 2170 Leu Glu 2185 Asp Arg	Ala Ser Asn Ala Val Ile Glu Asn 2140 Ile Tyr 2155 Thr Met Phe Tyr Thr Met	Glu Ar 2: Lys Ly 2125 Gly Gl ) Ile Le Leu Ly Ala Ly Glu Gl 2205 Glu Se	eu Leu 2095 rg Ile 110 ys Ala lu Asp eu Ala ys Pro 2175 ys His 190 ln Ile	Leu Tyr Gly His 2160 Gly Thr
Met Asp Leu Val  Ala Ile Met Glu 2100 Tyr Asn Met Arg 2115 Met Gln Gly Glu 2130 Ala Ala Ser Pro 2145 Gln Leu Ala Arg Gly Gln Val Asp 2180 Ala Gln Ile Glu 2195 Phe Pro Val Pro	Leu Glu 1 2085 Ser Arg 1 Pro Lys ( Val Glu 1 Arg Asn 2 2150 His Asn 2 2165 Gly Asp ( Ile Val 2 Ser Ile ( Thr Thr (	Leu Lys His Asp Glu Leu 2120 Phe Glu 2135 Val Gly Lys Glu Glu Ala Arg Leu 2200 Cys Glu 2215 Glu Arg	Ser Glu 2105 Val Glu Asp Gly His Asn Leu Gln 2170 Leu Glu 2185 Asp Arg	Ala Ser Asn Ala Val Ile Glu Asn 2140 Ile Tyr 2155 Thr Met Phe Tyr Thr Met Thr Lys 2220 Gln Gly	Glu Ar 2: Lys Ly 2125 Gly Gl ) Ile Le Leu Ly Ala Ly Glu Gl 2205 Glu Se	eu Leu 2095 rg Ile 110 ys Ala lu Asp eu Ala ys Pro 2175 ys His 190 ln Ile er Lys	Leu Tyr Gly His 2160 Gly Thr Val Leu Asn
Met Asp Leu Val  Ala Ile Met Glu 2100 Tyr Asn Met Arg 2115 Met Gln Gly Glu 2130 Ala Ala Ser Pro 2145 Gln Leu Ala Arg  Gly Gln Val Asp 2180 Ala Gln Ile Glu 2195 Phe Pro Val Pro 2210 Arg Ile Tyr Tyr	Leu Glu 1 2085 Ser Arg 1 Pro Lys ( Val Glu 1 Arg Asn 2 2150 His Asn 1 2165 Gly Asp ( Ile Val 2 Ser Ile ( 2230 Arg Ser (	Leu Lys His Asp Glu Leu 2120 Phe Glu 2135 Val Gly Lys Glu Glu Ala Arg Leu 2200 Cys Glu 2215 Glu Arg	Ser Glu 2105 Val Glu Asp Gly His Asn Leu Gln 2170 Leu Glu 2185 Asp Arg Phe Leu Asp Glu Leu Phe	Ala Ser Asn Ala Val Ile Glu Asn 2140 Ile Tyr 2155 Thr Met Phe Tyr Thr Met Thr Lys 2220 Gln Gly 2235 Asn Glu	Glu An 2: Lys Ly 2125 Gly Gl  Ile Le Leu Ly Ala Ly 2: Glu Gl 2205 Glu Se Ser Ly	eu Leu 2095 rg Ile 110 ys Ala lu Asp eu Ala ys Pro 2175 ys His 190 ln Ile er Lys ys Ile sn Trp	Leu Tyr Gly His 2160 Gly Thr Val Leu Asn 2240 Gln
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Met Asp Leu Val  Ala Ile Met Glu 2100 Tyr Asn Met Arg 2115 Met Gln Gly Glu 2130 Ala Ala Ser Pro 2145 Gln Leu Ala Arg Gly Gln Val Asp 2180 Ala Gln Ile Glu 2195 Phe Pro Val Pro 2210 Arg Ile Tyr Tyr 2225 Asp Phe Phe Leu Lys Lys Leu Arg 2260 Ser Phe Trp Ser	Leu Glu 1 2085 Ser Arg 1 Pro Lys ( Val Glu 1 Arg Asn 2 2150 His Asn 1 2165 Gly Asp ( Ile Val 2 Ser Ile ( 2230 Arg Ser ( 2245 Ala Gln 1	Leu Lys His Asp Glu Leu 2120 Phe Glu 2135 Val Gly Lys Glu Glu Ala Arg Leu 2200 Cys Glu 2215 Glu Arg Glu Asp Pro Val	Ser Glu 2105 Val Glu Asp Gly His Asn Leu Gln 2170 Leu Glu 2185 Asp Arg Phe Leu Asp Glu Leu Phe 2250 Leu Tyr 2265 Asn Leu	Ala Ser Asn Ala Val Ile Glu Asn 2140 Ile Tyr 2155 Thr Met Phe Tyr Thr Met Thr Lys 2220 Gln Gly 2235 Asn Glu Trp Cys	Glu An 2: Lys Ly 2125 Gly G: Ile Le Leu Ly Ala Ly Glu G: 2205 Glu Se Ser Ly Met As Ala A: Leu Me	eu Leu 2095 rg Ile 110 ys Ala lu Asp eu Ala ys Pro 2175 ys His 190 ln Ile er Lys ys Ile sn Trp 2255 rg Asn	Leu Tyr Gly His 2160 Gly Thr Val Leu Asn 2240 Gln Met
Met Asp Leu Val  Ala Ile Met Glu 2100 Tyr Asn Met Arg 2115 Met Gln Gly Glu 2130 Ala Ala Ser Pro 2145 Gln Leu Ala Arg  Gly Gln Val Asp 2180 Ala Gln Ile Glu 2195 Phe Pro Val Pro 2210 Arg Ile Tyr Tyr 2225 Asp Phe Phe Leu  Lys Lys Leu Arg 2260	Leu Glu : 2085 Ser Arg : Pro Lys ( Val Glu : Arg Asn : 2150 His Asn : 2165 Gly Asp ( Ile Val : Thr Thr ( 2230 Arg Ser ( 2245 Ala Gln : Ser Ile : Phe Tyr :	Leu Lys His Asp Glu Leu 2120 Phe Glu 2135 Val Gly Lys Glu Glu Ala Arg Leu 2200 Cys Glu 2215 Glu Arg Glu Asp Pro Val Ser Phe 2280	Ser Glu 2105 Val Glu Asp Gly His Asn Leu Gln 2170 Leu Glu 2185 Asp Arg Phe Leu Asp Glu Leu Phe 2250 Leu Tyr 2265 Asn Leu	Ala Ser Asn Ala Val Ile Glu Asn 2140 Ile Tyr 2155 Thr Met Phe Tyr Thr Met Thr Lys 2220 Gln Gly 2235 Asn Glu Trp Cys Ala Val	Glu An 2: Lys Ly 2125 Gly G: Ile Le Leu Ly Ala Ly Glu G: 2205 Glu Se Ser Ly Met As Ala A: 2: Leu Me 2285 Gly G:	eu Leu 2095 rg Ile 110 ys Ala lu Asp eu Ala ys Pro 2175 ys His 190 ln Ile er Lys ys Ile sn Trp 2255 rg Asn 270 et Asn	Leu Tyr Gly His 2160 Gly Thr Val Leu Asn 2240 Gln Met

Glu Pro His Trp Ser Gly Leu Leu Trp Thr Ala Met Leu Ile Ser Leu 2310 2315 Ala Ile Val Ile Ala Leu Pro Lys Pro His Gly Ile Arg Ala Leu Ile 2325 2330 Ala Ser Thr Ile Leu Arg Leu Ile Phe Ser Val Gly Leu Gln Pro Thr 2340 2345 Leu Phe Leu Leu Gly Ala Phe Asn Val Cys Asn Lys Ile Ile Phe Leu 2360 2355 Met Ser Phe Val Gly Asn Cys Gly Thr Phe Thr Arg Gly Tyr Arg Ala 2380 2375 Met Val Leu Asp Val Glu Phe Leu Tyr His Leu Leu Tyr Leu Leu Ile 2395 2390 Cys Ala Met Gly Leu Phe Val His Glu Phe Phe Tyr Ser Leu Leu 2410 2415 2405 Phe Asp Leu Val Tyr Arg Glu Glu Thr Leu Leu Asn Val Ile Lys Ser 2425 2420 Val Thr Arg Asn Gly Arg Pro Ile Ile Leu Thr Ala Ala Leu Ala Leu 2445 2435 2440 Ile Leu Val Tyr Leu Phe Ser Ile Val Gly Tyr Leu Phe Phe Lys Asp 2455 2460 Asp Phe Ile Leu Glu Val Asp Arg Leu Pro Asn Glu Thr Ala Gly Pro 2470 2475 Glu Thr Gly Glu Ser Leu Ala Asn Asp Phe Leu Tyr Ser Asp Val Cys 2485 2490 2495 Arg Val Glu Thr Gly Glu Asn Cys Thr Ser Pro Ala Pro Lys Glu Glu 2500 2505 2510 Leu Leu Pro Val Glu Glu Thr Glu Gln Asp Lys Glu His Thr Cys Glu 2520 2525 Thr Leu Leu Met Cys Ile Val Thr Val Leu Ser His Gly Leu Arg Ser 2535 2540 Gly Gly Val Gly Asp Val Leu Arg Lys Pro Ser Lys Glu Glu Pro 2550 2555 Leu Phe Ala Ala Arg Val Ile Tyr Asp Leu Leu Phe Phe Met Val 2570 Ile Ile Ile Val Leu Asn Leu Ile Phe Gly Val Ile Ile Asp Thr Phe 2585 Ala Asp Leu Arg Ser Glu Lys Gln Lys Glu Glu Ile Leu Lys Thr 2600 2605 Thr Cys Phe Ile Cys Gly Leu Glu Arg Asp Lys Phe Asp Asn Lys Thr 2615 2620 Val Thr Phe Glu Glu His Ile Lys Glu Glu His Asn Met Trp His Tyr 2635 2630 Leu Cys Phe Ile Val Leu Val Lys Val Lys Asp Ser Thr Glu Tyr Thr 2645 2650 Gly Pro Glu Ser Tyr Val Ala Glu Met Ile Arg Glu Arg Asn Leu Asp 2665 Trp Phe Pro Arq Met Arq Ala Met Ser Leu Val Ser Ser Asp Ser Glu 2680 Gly Glu Gln Asn Glu Leu Arg Asn Leu Gln Glu Lys Leu Glu Ser Thr 2695 2700 Met Lys Leu Val Thr Asn Leu Ser Gly Gln Leu Ser Glu Leu Lys Asp 2710 2715 Gln Met Thr Glu Gln Arg Lys Gln Lys Gln Arg Ile Gly Leu Leu Gly 2730 2725 His Pro Pro His Met Asn Val Asn Pro Gln Gln Pro Ala 2740 2745

<210> 3

<211> 2710

<212> PRT

## <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:/note =
 synthetic construct

<400>3Met Ser Asp Lys Met Ser Ser Phe Leu His Ile Gly Asp Ile Cys Ser Leu Tyr Ala Glu Gly Ser Thr Asn Gly Phe Ile Ser Thr Leu Gly Leu 25 Val Asp Asp Arg Cys Val Val Gln Pro Glu Ala Gly Asp Leu Asn Asn 40 4.5 Pro Pro Lys Lys Phe Arg Asp Cys Leu Phe Lys Leu Cys Pro Met Asn 55 60 Arg Tyr Ser Ala Gln Lys Gln Phe Trp Lys Ala Ala Lys Pro Gly Ala 70 75 Asn Ser Thr Thr Asp Ala Val Leu Leu Asn Lys Leu His His Ala Ala 85 90 Asp Leu Glu Lys Lys Gln Asn Glu Thr Glu Asn Arg Lys Leu Leu Gly 105 100 110 Thr Val Ile Gln Tyr Gly Asn Val Ile Gln Leu Leu His Leu Lys Ser 120 125 Asn Lys Tyr Leu Thr Val Asn Lys Arg Leu Pro Ala Leu Leu Glu Lys 135 140 Asn Ala Met Arg Val Thr Leu Asp Glu Ala Gly Asn Glu Gly Ser Trp 150 155 Phe Tyr Ile Gln Pro Phe Tyr Lys Leu Arg Ser Ile Gly Asp Ser Val 165 170 Val Ile Gly Asp Lys Val Val Leu Asn Pro Val Asn Ala Gly Gln Pro 180 185 Leu His Ala Ser Ser His Gln Leu Val Asp Asn Pro Gly Cys Asn Glu 200 205 Val Asn Ser Val Asn Cys Asn Thr Ser Trp Lys Ile Val Leu Phe Met 215 220 Lys Trp Ser Asp Asn Lys Asp Asp Ile Leu Lys Gly Gly Asp Val Val 225 230 235 Arg Leu Phe His Ala Glu Glu Glu Lys Phe Leu Thr Cys Asp Glu His 250 Arg Lys Lys Gln His Val Phe Leu Arg Thr Thr Gly Arg Gln Ser Ala 265 Thr Ser Ala Thr Ser Ser Lys Ala Leu Trp Glu Val Glu Val Val Gln 280 His Asp Pro Cys Arg Gly Gly Ala Gly Tyr Trp Asn Ser Leu Phe Arg 295 Phe Lys His Leu Ala Thr Gly His Tyr Leu Ala Ala Glu Val Asp Pro 310 315 Asp Phe Glu Glu Cys Leu Glu Phe Gln Pro Ser Val Asp Pro Asp 325 330 Gln Asp Ala Ser Arg Ser Arg Leu Arg Asn Ala Gln Glu Lys Met Val 345 Tyr Ser Leu Val Ser Val Pro Glu Gly Asn Asp Ile Ser Ser Ile Phe 360 365 Glu Leu Asp Pro Thr Thr Leu Arg Gly Gly Asp Ser Leu Val Pro Arg 375 380 Asn Ser Tyr Val Arg Leu Arg His Leu Cys Thr Asn Thr Trp Val His 390 395 Ser Thr Asn Ile Pro Ile Asp Lys Glu Glu Lys Pro Val Met Leu 405 410 Lys Ile Gly Thr Ser Pro Leu Lys Glu Asp Lys Glu Ala Phe Ala Ile 420 425

Val Pro Val Ser Pro Ala Glu Val Arg Asp Leu Asp Phe Ala Asn Asp Ala Ser Lys Val Leu Gly Ser Ile Ala Gly Lys Leu Glu Lys Gly Thr Ile Thr Gln Asn Glu Arg Arg Ser Val Thr Lys Leu Leu Glu Asp Leu Val Tyr Phe Val Thr Gly Gly Thr Asn Ser Gly Gln Asp Val Leu Glu Val Val Phe Ser Lys Pro Asn Arg Glu Arg Gln Lys Leu Met Arg Glu Gln Asn Ile Leu Lys Gln Ile Phe Lys Leu Leu Gln Ala Pro Phe Thr Asp Cys Gly Asp Gly Pro Met Leu Arg Leu Glu Glu Leu Gly Asp Gln Arg His Ala Pro Phe Arg His Ile Cys Arg Leu Cys Tyr Arg Val Leu Arg His Ser Gln Gln Asp Tyr Arg Lys Asn Gln Glu Tyr Ile Ala Lys Gln Phe Gly Phe Met Gln Lys Gln Ile Gly Tyr Asp Val Leu Ala Glu Asp Thr Ile Thr Ala Leu Leu His Asn Asn Arg Lys Leu Leu Glu Lys His Ile Thr Ala Ala Glu Ile Asp Thr Phe Val Ser Leu Val Arg Lys Asn Arg Glu Pro Arg Phe Leu Asp Tyr Leu Ser Asp Leu Cys Val Ser Met Asn Lys Ser Ile Pro Val Thr Gln Glu Leu Ile Cys Lys Ala Val Leu Asn Pro Thr Asn Ala Asp Ile Leu Ile Glu Thr Lys Leu Val Leu Ser Arg Phe Glu Phe Glu Gly Val Ser Thr Gly Glu Asn Ala Leu Glu Ala Gly Glu Asp Glu Glu Val Trp Leu Phe Trp Arg Asp Ser Asn Lys Glu Ile Arg Ser Lys Ser Val Arg Glu Leu Ala Gln Asp Ala Lys Glu Gly Gln Lys Glu Asp Arg Asp Val Leu Ser Tyr Tyr Arg Tyr Gln Leu Asn Leu Phe Ala Arg Met Cys Leu Asp Arg Gln Tyr Leu Ala Ile Asn Glu Ile Ser Gly Gln Leu Asp Val Asp Leu Ile Leu Arq Cys Met Ser Asp Glu Asn Leu Pro Tyr Asp Leu Arg Ala Ser Phe Cys Arg Leu Met Leu His Met His Val Asp Arg Asp Pro Gln Glu Gln Val Thr Pro Val Lys Tyr Ala Arg Leu Trp Ser Glu Ile Pro Ser Glu Ile Ala Ile Asp Asp Tyr Asp Ser Ser Gly Ala Ser Lys Asp Glu Ile Lys Glu Arg Phe Ala Gln Thr Met Glu Phe Val Glu Glu Tyr Leu Arg Asp Val Val Cys Gln Arg Phe Pro Phe Ser Asp Lys Glu Lys Asn Lys Leu Thr Phe Glu Val Val Asn Leu Ala Arg Asn Leu Ile Tyr Phe Gly Phe Tyr Asn Phe Ser Asp Leu Leu Arg Leu Thr Lys Ile Leu Leu Ala Ile Leu Asp Cys Val His Val Thr Thr Ile Phe Pro Ile Ser Lys Met Thr Lys Gly Glu Glu Asn Lys Gly Ser Asn Val Met Arg Ser Ile His Gly Val Gly

Glu Leu Met Thr Gln Val Val Leu Arg Gly Gly Gly Phe Leu Pro Met 930 935 940  Thr Pro Met Ala Ala Ala Pro Glu Gly Asn Val Lys Gln Ala Glu Pro 945  Glu Lys Glu Asp Ile Met Val Met Asp Thr Lys Leu Lys Ile Ile Glu 965  Glu Lys Glu Asp Ile Met Val Met Asp Thr Lys Leu Lys Ile Ile Glu 975  Ile Leu Gln Phe Ile Leu Asn Val Arg Leu Asp Tyr Arg Ile Ser Cys 980 995  Ser Glu Thr Ser Ser Gly Asn Ser Ser Gln Glu Gly Pro Ser Asn Val 1010 1005  Ser Glu Thr Ser Ser Gly Asn Ser Ser Gln Glu Gly Pro Ser Asn Val 1010 1015 1020  Pro Gly Ala Leu Asp Phe Glu His Ile Glu Glu Glu Gln Ala Glu Gly Ile 1025 1035 1045  Gly Arg Thr Phe Leu Arg Val Leu Leu His Leu Thr Met His Asp Tyr 1060 1065  Glo Arg Gln Glu Val Leu Gln Leu His Leu Thr Met His Asp Tyr 1060 1075  Gln Arg Gln Glu Val Leu Gln Ala Phe Lys Gln Val Gln Leu Leu Val 1090  Thr Ser Gln Asp Val Asp Asn Tyr Lys Gln Val Gln Leu Leu Val 1090  Thr Ser Gln Asp Val Asp Asn Tyr Lys Gln Ile Lys Gln Asp Leu Asp 1110  Gln Leu Arg Ser Ile Val Glu Lys Ser Glu Leu Trp Val Tyr Lys Gly 1125  Gln Gly Pro Asp Glu Pro Met Asp Gly Ala Ser Gly Glu Asn Glu His Ilio 1135  Ser Ser Tyr Asn Tyr Arg Val Val Lys Glu Ile Leu Ile Arg Leu Ser Ilio 1140  Lys Lys Thr Glu Glu Gly Thr Ser Lys Pro Leu Lys His Glu Ser Thr 1155  Ser Ser Tyr Asn Tyr Arg Val Val Lys Glu Ile Leu Ile Arg Leu Ser Ilio 1120  Gln Gla Arg Leu Leu Arg Asn Met Gly Ala His Ala Val Val Leu Glu Glu Ser Ala Ser Val Asp Leu Ser Ilio 1120  Gln Gln Arg Leu Leu Arg Ser Ile Val Glu Ser Lys Pro Leu Lys His Glu Ser Thr 1155  Ser Ser Tyr Asn Tyr Arg Val Val Lys Glu Ile Leu Ile Arg Leu Ser Ilio 1120  Gln Gly Pro Asp Glu Pro Met Asp Gly Ala Ser Gly Glu Asp Leu Ser Ilio 1120  Gln Gln Arg Leu Leu Arg Asn Met Gly Ala His Ala Val Val Leu Glu 1205  Gln Gln Asp Clu Leu Arg Asn Met Gly Ala His Ala Val Val Leu Glu 1205  Gln Gln Asp Clu Leu Arg Asn Met Gly Ala His Ala Val Val Leu Glu 1205  Gln Gln Asp Gln Asp Leu Leu Arg Asn Met Gly Ala His Ala Val Val Leu Glu 1205  Gln Gln Asp Clu Leu Glu Ala Val Thr Met Gln His The Met Asp Asp 1245  His Cys Ile Glu Thr His Gly Arg Asn	Clu Tou Mo	5				920					925			
955 950 955 960 Glu Lys Glu Asp Ile Met Val Met Asp Thr Lys Leu Lys Ile Glu 965 Ile Leu Gln Phe Ile Leu Asn Val Arg Leu Asp Tyr Arg Ile Ser Cys 980 985 990 Leu Cys Ile Phe Lys Arg Glu Phe Asp Glu Ser Asn Ser Gln Ser 1000 1005 Ser Glu Thr Ser Ser Gly Asn Ser Ser Gln Glu Gly Pro Ser Asn Val 1010 1015 1020 Pro Gly Ala Leu Asp Phe Glu His Ile Glu Glu Gly Pro Ser Asn Val 1020 1035 1030 1035 1040 Phe Gly Gly Ser Glu Glu Asn Thr Pro Leu Asp Leu Asp Asp His Gly Ile 1025 1055 1055 1055 1055 1055 1055 1055		t Thr	Gln	Val		Leu	Arg	Gly	Gly		Phe	Leu	Pro	Met
965   970   975   110		t Ala	Ala		Pro	Glu	Gly	Asn		Lys	Gln	Ala	Glu	
980   985   990   985   990   985   990   1005   1005   1005   1005   1005   1005   1005   1005   1005   1005   1005   1005   1007   1005   1007   1006   1005   1007   1005   1007   1005   1007   1005   1007   1005   1007   1005   1007   1005   1007   1005   1007   1005   1007   1005   1007   1005   1007   1005   1007   1005   1007   1005   1005   1007   1005   1000	Glu Lys Gl	qaA ı		Met	Val	Met	Asp		Lys	Leu	Lys	Ile		Glu
995	Ile Leu Gl		Ile	Leu	Asn	Val		Leu	Asp	Tyr	Arg		Ser	Cys
1010	99	5		-		1000	)				1005	•		
1025		r Ser	Ser	Gly			Ser	Gln	Glu			Ser	Asn	Val
Phe Gly Gly Ser Glu Glu Asn Thr Pro Leu Asp Leu Asp Asp His Gly 1045   1055   1055   1055   1070   1055   1070   1055   1070   1055   1070   1070   1070   1070   1070   1070   1070   1070   1070   1070   1070   1070   1070   1070   1070   1070   1075   1080   1085	_	a Leu	Asp			His	Ile	Glu			Ala	Glu	Gly	
Carrest		y Ser		Glu		Thr	Pro		Asp		Asp	Asp		Gly
Pro Pro Leu Val Ser Gly Ala Leu Gln Leu Leu Phe Arg His Phe Ser 1075 1080 1085 1085 1095 1090 1090 1095 1100 1095 11100 1115 11100 1115 1115	Gly Arg Th		Leu		Val	Leu		His		Thr	Met		Asp	
Cln Arg Gln Gln Val Leu Gln Ala Phe Lys Gln Val Gln Leu Leu Val 1090		u Val		Gly			Gln		Leu	Phe	_	His		Ser
1105	-	n Glu	Val	Leu	Gln	Ala		Lys	Gln			Leu	Leu	Val
Gln Gly Pro Asp Glu Pro Met Asp Gly Ala Ser Gly Glu Asn Glu His 1140		n Asp	Val	_		Tyr	Lys	Gln			Gln	Asp	Leu	
Lys Lys Thr Glu Glu Gly Thr Ser Lys Pro Leu Lys His Glu Ser Thr  1155  Ser Ser Tyr Asn Tyr Arg Val Val Lys Glu Ile Leu Ile Arg Leu Ser  1170  Lys Leu Cys Val Gln Glu Ser Ala Ser Val Arg Lys Ser Arg Lys Gln  1185  Lys Leu Cys Val Gln Glu Ser Ala Ser Val Arg Lys Ser Arg Lys Gln  1185  Lys Leu Cys Val Gln Glu Ser Ala Ser Val Arg Lys Ser Arg Lys Gln  1185  1190  Gln Gln Arg Leu Leu Arg Asn Met Gly Ala His Ala Val Val Leu Glu  1205  Leu Leu Gln Ile Pro Tyr Glu Lys Ala Glu Asp Thr Lys Met Gln Glu  1220  1225  Leu Leu Arg Leu Ala His Glu Phe Leu Gln Asn Phe Cys Ala Gly Asn  1235  Gln Gln Asn Gln Ala Leu Leu Heu His Lys His Ile Asn Leu Phe Leu Asn  1250  Pro Gly Ile Leu Glu Ala Val Thr Met Gln His Ile Phe Met Asn Asn  1265  Pro Gly Ile Leu Glu Ala Val Thr Met Gln His Ile Phe Met Asn Asn  1265  Phe Gln Leu Cys Ser Glu Ile Asn Glu Arg Val Val Gln His Phe Val  1285  His Cys Ile Glu Thr His Gly Arg Asn Val Gln Tyr Ile Lys Phe Leu  1300  Gln Thr Ile Val Lys Ala Glu Gly Lys Phe Ile Lys Cys Gln Asp  1315  Tyr Asn Asp Arg Ala Ser Phe Gln Thr Leu Ile Gln Met Met Arg Ser  1346  Glu Arg Asp Arg Met Asp Glu Asn Ser Gry Glu Glu Asp Val Leu Val Phe  1335  Tyr Asn Asp Arg Ala Ser Phe Gln Thr Leu Ile Gln Met Met Arg Ser  1365  Glu Arg Asp Arg Met Asp Glu Asn Ser Pro Leu Phe Met Tyr His Ile  1365  1370  1375  His Leu Val Glu Leu La Ala Val Cys Thr Glu Gly Lys Asn Val Tyr  1380  Thr Glu Ile Lys Cys Asn Ser Leu Leu Pro Leu Asp Asp Ile Val Arg	Gln Leu Ar	g Ser			Glu	Lys	Ser			Trp	Val	Tyr		
Ser Ser Tyr Asn Tyr Arg Val Val Lys Glu Ile Leu Ile Arg Leu Ser 1170	Gln Gly Pr	_		Pro	Met	Asp	_		Ser	Gly	Glu			His
Lys Leu Cys Val Gln Glu Ser Ala Ser Val Arg Lys Ser Arg Lys Gln 1185			Glu	Gly	Thr			Pro	Leu				Ser	Thr
1185		r Asn	Tyr	Arg			Lys	Glu	Ile			Arg	Leu	Ser
Leu Leu Gln Ile Pro Tyr Glu Lys Ala Glu Asp Thr Lys Met Gln Glu 1220 1225 1230  Ile Met Arg Leu Ala His Glu Phe Leu Gln Asn Phe Cys Ala Gly Asn 1235 1240 1245  Gln Gln Asn Gln Ala Leu Leu His Lys His Ile Asn Leu Phe Leu Asn 1250 1255 1260  Pro Gly Ile Leu Glu Ala Val Thr Met Gln His Ile Phe Met Asn Asn 1265 1270 1285  Phe Gln Leu Cys Ser Glu Ile Asn Glu Arg Val Val Gln His Phe Val 1285 1295  His Cys Ile Glu Thr His Gly Arg Asn Val Gln Tyr Ile Lys Phe Leu 1300 1305 1310  Gln Thr Ile Val Lys Ala Glu Gly Lys Phe Ile Lys Lys Cys Gln Asp 1315 1320 1325  Met Val Met Ala Glu Leu Val Asn Ser Gly Glu Asp Val Leu Val Phe 1330 1335 1340  Tyr Asn Asp Arg Ala Ser Phe Gln Thr Leu Ile Gln Met Met Arg Ser 1345 1350 1350 1360  Glu Arg Asp Arg Ala Ser Phe Gln Thr Leu Ile Gln Met Met Arg Ser 1345 1350 1350  Glu Arg Asp Arg Met Asp Glu Asn Ser Pro Leu Phe Met Tyr His Ile 1366  Glu Arg Asp Arg Met Asp Glu Asn Ser Pro Leu Asp Asp Val Tyr His Ile 1365 1375  His Leu Val Glu Leu Leu Ala Val Cys Thr Glu Gly Lys Asn Val Tyr 1380 1385 1380  Thr Glu Ile Lys Cys Asn Ser Leu Leu Pro Leu Asp Asp Ile Val Arg	11/0				11/	•				TTR	,			
The large   The	Lys Leu Cy 1185			1190	Ser	Ala			1199	Lys 5	Ser	_	_	1200
1235	Lys Leu Cy 1185 Gln Gln Ar	g Leu	Leu 1205	1190 Arg	Ser ) Asn	Ala Met	Gly	Ala 1210	1195 His	Lys 5 Ala	Ser Val	Val	Leu 1215	1200 Glu 5
1255       1260         Pro Gly Ile Leu Glu Ala Val Thr Met Gln His Ile Phe Met Asn Asn 1265         1270       1275       1280         Phe Gln Leu Cys Ser Glu Ile Asn Glu Arg Val Val Gln His Phe Val 1285         1290       1295         His Cys Ile Glu Thr His Gly Arg Asn Val Gln Tyr Ile Lys Phe Leu 1300         1305       1310         Gln Thr Ile Val Lys Ala Glu Gly Lys Phe Ile Lys Lys Cys Gln Asp 1315         Met Val Met Ala Glu Leu Val Asn Ser Gly Glu Asp Val Leu Val Phe 1330         Tyr Asn Asp Arg Ala Ser Phe Gln Thr Leu Ile Gln Met Met Arg Ser 1345         Tyr Asn Asp Arg Met Asp Glu Asn Ser Pro Leu Phe Met Tyr His Ile 1365         Glu Arg Asp Arg Met Asp Glu Asn Ser Pro Leu Phe Met Tyr His Ile 1365         His Leu Val Glu Leu Leu Ala Val Cys Thr Glu Gly Lys Asn Val Tyr 1380         Thr Glu Ile Lys Cys Asn Ser Leu Leu Pro Leu Asp Asp Ile Val Arg	Lys Leu Cy 1185 Gln Gln Ar Leu Leu Gl	g Leu n Ile 1220	Leu 1205 Pro	1190 Arg Tyr	Ser Asn Glu	Ala Met Lys	Gly Ala 1225	Ala 1210 Glu	1199 His ) Asp	Lys Ala Thr	Ser Val Lys	Val Met 1230	Leu 1219 Gln	1200 Glu Glu
1265	Lys Leu Cy 1185 Gln Gln Ar Leu Leu Gl Ile Met Ar	g Leu n Ile 1220 g Leu 35	Leu 1205 Pro ) Ala	1190 Arg Tyr His	Ser Asn Glu	Ala Met Lys Phe 1240	Gly Ala 1225 Leu	Ala 1210 Glu Gln	1199 His ) Asp Asn	Lys Ala Thr	Ser Val Lys Cys 1245	Val Met 1230 Ala	Leu 1219 Gln ) Gly	1200 Glu Glu Asn
His Cys Ile Glu Thr His Gly Arg Asn Val Gln Tyr Ile Lys Phe Leu $1300$	Lys Leu Cy 1185 Gln Gln Ar Leu Leu Gl Ile Met Ar 12 Gln Gln As 1250	g Leu n Ile 1220 g Leu 35 n Gln	Leu 1205 Pro ) Ala Ala	1190 Arg Tyr His Leu	Ser Asn Glu Glu Leu 1255	Ala Met Lys Phe 1240 His	Gly Ala 1225 Leu ) Lys	Ala 1210 Glu Gln His	1195 His ) Asp Asn	Lys Ala Thr Phe Asn 1260	Val Lys Cys 1245 Leu	Val Met 1230 Ala Phe	Leu 1219 Gln ) Gly Leu	1200 Glu Glu Asn Asn
Signature	Lys Leu Cy 1185 Gln Gln Ar Leu Leu Gl Ile Met Ar 12 Gln Gln As 1250 Pro Gly Il	g Leu n Ile 1220 g Leu 35 n Gln	Leu 1205 Pro ) Ala Ala	1190 Arg Tyr His Leu	Ser Asn Glu Glu Leu 1255	Ala Met Lys Phe 1240 His	Gly Ala 1225 Leu ) Lys	Ala 1210 Glu Gln His	1195 His Asp Asn Ile	Lys Ala Thr Phe Asn 1260 Ile	Val Lys Cys 1245 Leu	Val Met 1230 Ala Phe	Leu 1219 Gln ) Gly Leu	1200 Glu Glu Asn Asn
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Lys Leu Cy 1185 Gln Gln Ar Leu Leu Gl Ile Met Ar 12 Gln Gln As 1250 Pro Gly Il 1265	g Leu n Ile 1220 g Leu 35 n Gln e Leu	Leu 1205 Pro ) Ala Ala Glu Ser	1190 Arg Tyr His Leu Ala 1270 Glu	Ser Asn Glu Glu Leu 1255 Val	Ala Met Lys Phe 1240 His Thr	Gly Ala 1225 Leu ) Lys Met	Ala 1210 Glu Gln His Gln	Asp Asn Ile His 2 Asn Val	Lys Ala Thr Phe Asn 1260 Ile	Val Lys Cys 1245 Leu ) Phe	Val Met 1230 Ala Phe Met	Leu 1215 Gln Gly Leu Asn	1200 Glu Glu Asn Asn Asn 1280 Val
1330       1335       1340         Tyr Asn Asp Asp Arg Ala Ser Phe Gln Thr Leu Ile Gln Met Met Arg Ser 1345         1350       1355       1360         Glu Arg Asp Asp Arg Met Asp Glu Asn Ser Pro Leu Phe Met Tyr His Ile 1370         1370       1375         His Leu Val Glu Leu Leu Leu Ala Val Cys Thr Glu Gly Lys Asn Val Tyr 1380         1385       1390         Thr Glu Ile Lys Cys Asn Ser Leu Leu Pro Leu Asp Asp Ile Val Arg	Lys Leu Cy 1185 Gln Gln Ar Leu Leu Gl Ile Met Ar 12 Gln Gln As 1250 Pro Gly Il 1265 Phe Gln Le	g Leu n Ile 1220 g Leu 35 n Gln e Leu u Cys	Leu 1205 Pro ) Ala Ala Glu Ser 1285 Thr	1190 Arg Tyr His Leu Ala 1270 Glu	Ser Asn Glu Glu Leu 1255 Val	Ala Met Lys Phe 1240 His Thr	Gly Ala 1225 Leu Lys Met Glu Asn	Ala 1210 Glu Gln His Gln Arg 1290 Val	Asp Asn Ile His 275 Val	Lys Ala Thr Phe Asn 1260 Ile Val	Val Lys Cys 1245 Leu Phe Gln	Val Met 1230 Ala Phe Met His	Leu 1219 Gln Gly Leu Asn Phe 1299 Phe	1200 Glu Glu Asn Asn Asn 1280 Val
1345	Lys Leu Cy 1185 Gln Gln Ar  Leu Leu Gl  Ile Met Ar  Gln Gln As 1250 Pro Gly Il 1265 Phe Gln Le  His Cys Il  Gln Thr Il	g Leu n Ile 1220 g Leu 35 n Gln e Leu u Cys e Glu 1300 e Val	Leu 1205 Pro ) Ala Ala Glu Ser 1285 Thr	1190 Arg Tyr His Leu Ala 1270 Glu His	Ser Asn Glu Glu Leu 1255 Val Ile Gly	Ala Met Lys Phe 1240 His Thr Asn Arg	Ala 1225 Leu Lys Met Glu Asn 1305 Lys	Ala 1210 Glu Gln His Gln Arg 1290 Val	Asp Asn Ile His 1279 Val	Lys Ala Thr Phe Asn 1260 Ile Val	Val Lys Cys 1245 Leu Phe Gln Ile	Val Met 1230 Ala Phe Met His Lys 1310 Cys	Leu 1219 Gln Gly Leu Asn Phe 1299 Phe	1200 Glu Glu Asn Asn Asn 1280 Val
Glu Arg Asp Arg Met Asp Glu Asn Ser Pro Leu Phe Met Tyr His Ile 1365 1370 1375  His Leu Val Glu Leu Leu Ala Val Cys Thr Glu Gly Lys Asn Val Tyr 1380 1385 1390  Thr Glu Ile Lys Cys Asn Ser Leu Leu Pro Leu Asp Asp Ile Val Arg	Lys Leu Cy 1185 Gln Gln Ar  Leu Leu Gl  Ile Met Ar  Gln Gln As 1250 Pro Gly Il 1265 Phe Gln Le  His Cys Il  Gln Thr Il  Met Val Me	g Leu n Ile 1220 g Leu 35 n Gln e Leu u Cys e Glu 1300 e Val	Leu 1205 Pro Ala Ala Glu Ser 1285 Thr Lys	1190 Arg Tyr His Leu Ala 1270 Glu His	Ser Asn Glu Glu Leu 1255 Val Ile Gly Glu Val	Ala Met Lys Phe 1240 His Thr Asn Arg Gly 1320 Asn	Gly Ala 1225 Leu Lys Met Glu Asn 1305 Lys	Ala 1210 Glu Gln His Gln Arg 1290 Val Description	Asp Asn Ile His 1279 Val Colored The	Lys Ala Thr Phe Asn 1260 Ile Val Tyr Lys Asp	Val Lys Cys 1245 Leu Phe Gln Ile Lys 1325 Val	Val Met 1230 Ala Phe Met His Lys 1310 Cys	Leu 1219 Gln Gly Leu Asn Phe 1299 Phe Gln	1200 Glu Glu Asn Asn Asn 1280 Val Leu
His Leu Val Glu Leu Leu Ala Val Cys Thr Glu Gly Lys Asn Val Tyr 1380 1385 1390  Thr Glu Ile Lys Cys Asn Ser Leu Leu Pro Leu Asp Asp Ile Val Arg	Lys Leu Cy 1185 Gln Gln Ar  Leu Leu Gl  Ile Met Ar  Gln Gln As 1250 Pro Gly Il 1265 Phe Gln Le  His Cys Il  Gln Thr Il  Met Val Me 1330 Tyr Asn As	g Leu n Ile 1220 g Leu 35 n Gln e Leu u Cys e Glu 1300 e Val 15 t Ala	Leu 1205 Pro ) Ala Ala Glu Ser 1285 Thr ) Lys	1190 Arg Tyr His Leu Ala 1270 Glu His Ala Leu	Asn Glu Glu Leu 1255 Val Ile Gly Glu Val 1335 Phe	Ala Met Lys Phe 1240 His Thr Asn Arg Gly 1320 Asn	Ala 1225 Leu Lys Met Glu Asn 1305 Lys Ser	Ala 1210 Glu Gln His Gln Arg 1290 Val Phe	Asp Asn Ile His 1279 Val Gln Ile Glu Ile	Lys Ala Thr Phe Asn 1260 Ile Val Tyr Lys Asp 1340 Gln	Val Lys Cys 1245 Leu Phe Gln Ile Lys 1325 Val	Met 1230 Ala Phe Met His Lys 1310 Cys	Leu 1219 Gln Gly Leu Asn Phe 1299 Phe Offin Val	1200 Glu Glu Asn Asn 1280 Val Leu Asp
Thr Glu Ile Lys Cys Asn Ser Leu Leu Pro Leu Asp Asp Ile Val Arg	Lys Leu Cy 1185 Gln Gln Ar  Leu Leu Gl  Ile Met Ar  Gln Gln As 1250 Pro Gly Il 1265 Phe Gln Le  His Cys Il  Gln Thr Il  Met Val Me 1330 Tyr Asn As 1345	g Leu n Ile 1220 g Leu 35 n Gln e Leu u Cys e Glu 1300 e Val 15 t Ala	Leu 1205 Pro Ala Ala Glu Ser 1285 Thr Lys Glu Ala Met	1190 Arg Tyr His Leu Ala 1270 Glu His Ala Leu Ser 1350 Asp	Ser Asn Glu Glu Leu 1255 Val Ile Gly Glu Val 1335 Phe	Ala Met Lys Phe 1240 His Thr Asn Arg Gly 1320 Asn Gln	Ala 1225 Leu Lys Met Glu Asn 1305 Lys Ser	Ala 1210 Glu Gln His Gln Arg 1290 Val Dhe Gly Leu Pro	Asp Asn Ile His 1275 Val Gln Ile Glu Ile 1355 Leu	Lys Ala Thr Phe Asn 1260 Ile Val Tyr Lys Asp 1340 Gln	Val Lys Cys 1245 Leu Phe Gln Ile Lys 1325 Val	Val  Met 1230 Ala Phe Met His Lys 1310 Cys Leu Met	Leu 1219 Gln Gly Leu Asn Phe 1299 Gln Val Arg	1200 Glu Glu Asn Asn 1280 Val Leu Asp Phe Ser 1360 Ile
	Lys Leu Cy 1185 Gln Gln Ar  Leu Leu Gl  Ile Met Ar  Gln Gln As 1250 Pro Gly Il 1265 Phe Gln Le  His Cys Il  Gln Thr Il  Met Val Me 1330 Tyr Asn As 1345 Glu Arg As	g Leu n Ile 1220 g Leu 35 n Gln e Leu u Cys e Glu 1300 e Val 15 t Ala p Arg	Leu 1205 Pro Ala Ala Glu Ser 1285 Thr Lys Glu Ala Met 1365 Leu	1190 Arg Tyr His Leu Ala 1270 Glu His Ala Leu Ser 1350 Asp	Ser Asn Glu Glu Leu 1255 Val Ile Gly Glu Val 1335 Phe Glu	Ala Met Lys Phe 1240 His Thr Asn Arg Gly 1320 Asn Gln Asn	Ala 1225 Leu Lys Met Glu Asn 1305 Lys Ser Thr Ser	Ala 1210 Glu Glu Gln His Gln Arg 1290 Val Phe Gly Leu Pro 1370 Thr	Asp Asn Ile His 1275 Val Gln Ile Glu Ile 1355 Leu 0	Lys Ala Thr Phe Asn 1260 Ile Val Tyr Lys Asp 1340 Gln Phe	Val Lys Cys 1245 Leu Phe Gln Ile Lys 1325 Val Met Met	Val Met 1230 Ala Phe Met His Lys 1310 Cys Leu Met Tyr	Leu 1219 Gln Gly Leu Asn Phe 1299 Gln Val Arg His 1379 Val	1200 Glu Glu Asn Asn 1280 Val Leu Asp Phe Ser 1360 Ile

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Val Val Thr His Glu Asp Cys Ile Pro Glu Val Lys Ile Ala Tyr Ile
                   1415
   1410
                                     1420
Asn Phe Leu Asn His Cys Tyr Val Asp Thr Glu Val Glu Met Lys Glu
                1430
                                 1435
Ile Tyr Thr Ser Asn His Met Trp Lys Leu Phe Glu Asn Phe Leu Val
                              1450
             1445
Asp Ile Cys Arg Ala Cys Asn Asn Thr Ser Asp Arg Lys His Ala Asp
                          1465
          1460
Ser Val Leu Glu Lys Tyr Val Thr Glu Ile Val Met Ser Ile Val Thr
                      1480
      1475
                                       1485
Thr Phe Phe Ser Ser Pro Phe Ser Asp Gln Ser Thr Thr Leu Gln Thr
                   1495
                                    1500
Arg Gln Pro Val Phe Val Gln Leu Leu Gln Gly Val Phe Arg Val Tyr
      1510 1515
His Cys Asn Trp Leu Met Pro Ser Gln Lys Ala Ser Val Glu Ser Cys
       1525 1530 1535
Ile Arg Val Leu Ser Asp Val Ala Lys Ser Arg Ala Ile Ala Ile Pro
                1545 1550
         1540
Val Asp Leu Asp Ser Gln Val Asn Asn Leu Phe Leu Lys Ser His Asn
     1555 1560 1565
Ile Val Gln Lys Thr Ala Met Asn Trp Arg Leu Ser Ala Arg Asn Ala
                   1575 1580
Ala Arg Arg Asp Asp Val Leu Ala Ala Ser Arg Asp Tyr Arg Asn Ile
               1590 1595
Ile Glu Arg Leu Gln Asp Ile Val Ser Ala Leu Glu Asp Arg Leu Arg
            1605 1610 1615
Pro Leu Val Gln Ala Glu Leu Ser Val Leu Val Asp Val Leu His Arg
         1620
                          1625
Pro Glu Leu Leu Phe Pro Glu Asn Thr Asp Ala Arg Arg Lys Cys Glu
                       1640
Ser Gly Gly Phe Ile Cys Lys Leu Ile Lys His Thr Lys Gln Leu Leu
          1655
                                    1660
Glu Glu Asn Glu Glu Lys Leu Cys Ile Lys Val Leu Gln Thr Leu Arg
                1670
                                1675
Glu Met Met Thr Lys Asp Arg Gly Tyr Gly Glu Lys Gly Glu Ala Leu
                             1690
Arg Gln Ile Leu Val Asn Arg Tyr Tyr Gly Asn Ile Arg Pro Ser Gly
                          1705
Arg Arg Glu Ser Leu Thr Ser Phe Gly Asn Gly Pro Leu Ser Pro Gly
                       1720
Gly Pro Ser Lys Pro Gly Gly Gly Gly Gly Pro Gly Ser Gly Ser
                   1735
                                    1740
Thr Ser Arg Gly Glu Met Ser Leu Ala Glu Val Gln Cys His Leu Asp
                1750
                                 1755
Lys Glu Gly Ala Ser Asn Leu Val Ile Asp Leu Ile Met Asn Ala Ser
             1765
                             1770
Ser Asp Arg Val Phe His Glu Ser Ile Leu Leu Ala Ile Ala Leu Leu
                          1785
Glu Gly Gly Asn Thr Thr Ile Gln His Ser Phe Phe Cys Arg Leu Thr
                       1800
Glu Asp Lys Lys Ser Glu Lys Phe Phe Lys Val Phe Tyr Asp Arg Met
                   1815
                                    1820
Lys Val Ala Gln Gln Glu Ile Lys Ala Thr Val Thr Val Asn Thr Ser
                1830
                                 1835
Asp Leu Gly Asn Lys Lys Asp Asp Glu Val Asp Arg Asp Ala Pro
            1845
                             1850
Ser Arg Lys Lys Ala Lys Glu Pro Thr Thr Gln Ile Thr Glu Glu Val
         1860 1865
                                           1870
Arg Asp Gln Leu Leu Glu Ala Ser Ala Ala Thr Arg Lys Ala Phe Thr
  1875 1880 1885
Thr Phe Arg Arg Glu Ala Asp Pro Asp Asp His Tyr Gln Ser Gly Glu
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1890	1895	1900	)
Gly Thr Gln Ala Thr			
1905	1910	1915	1920
Ala Val Ile Thr Ile		1930	1935
Cys Glu Asn His Asn 1940		Asn Phe Leu	
Asn Lys Thr Asn Tyr 1955			
Cys Ile Cys Gly Ser		Leu Gly Leu 1980	Leu Gly Leu Tyr
Ile Asn Glu Lys Asn	Val Ala Leu Ile	Asn Gln Thr	Leu Glu Ser Leu
1985 Thr Glu Tyr Cys Gln			
200 Thr His Glu Ser Asn	Gly Ile Asp Ile		
2020 Asp Ile Asn Pro Leu	202 Gly Lys Lys Ard		2030 Val Leu Glu Leu
2035	2040	, 1.0.	2045
Lys Asn Asn Ala Ser 2050	Lys Leu Leu Leu 2055	Ala Ile Met 2060	_
Asp Ser Glu Asn Ala			
2065 Leu Val Glu Val Ile		2075 Met Gln Gly	2080 Glu Val Glu Phe
208	5	2090	2095
Glu Asp Gly Glu Asn 2100	Gly Glu Asp Gly 210		Pro Arg Asn Val 2110
Gly His Asn Ile Tyr 2115	2120		2125
Glu Leu Gln Thr Met 2130	Leu Lys Pro Gly 2135	Gly Gln Val 2140	
Ala Leu Glu Phe Tyr 2145	Ala Lys His Th	Ala Gln Ile 2155	Glu Ile Val Arg 2160
Leu Asp Arg Thr Met 216		Phe Pro Val	Pro Ser Ile Cys 2175
Glu Phe Leu Thr Lys 2180	Glu Ser Lys Let 218		Tyr Thr Thr Glu 2190
Arg Asp Glu Gln Gly 2195	Ser Lys Ile Ası 2200	Asp Phe Phe	Leu Arg Ser Glu 2205
Asp Leu Phe Asn Glu 2210	Met Asn Trp Gli 2215	Lys Lys Leu 222	
Val Leu Tyr Trp Cys 2225	Ala Arg Asn Met	Ser Phe Trp 2235	Ser Ser Ile Ser 2240
Phe Asn Leu Ala Val		Leu Val Ala 2250	Phe Phe Tyr Pro 2255
Phe Lys Gly Val Arg 2260		Glu Pro His	
Leu Trp Thr Ala Met			
Lys Pro His Gly Ile 2290		e Ala Ser Thr 230	Ile Leu Arg Leu
Ile Phe Ser Val Gly 2305			
Asn Val Cys Asn Lys	Ile Ile Phe Le	Met Ser Phe	Val Gly Asn Cys
232 Gly Thr Phe Thr Arg		2330 a Met Val Leu	2335 Asp Val Glu Phe
2340 Leu Tyr His Leu Leu	234 Tyr Leu Leu Ile		2350 Gly Leu Phe Val
2355 His Glu Phe Phe Tyr	2360	_	2365
2370	2375	238	

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Glu Thr Leu Leu Asn Val Ile Lys Ser Val Thr Arg Asn Gly Arg Pro
                   2390
                                      2395
Ile Ile Leu Thr Ala Ala Leu Ala Leu Ile Leu Val Tyr Leu Phe Ser
               2405
                                  2410
Ile Val Gly Tyr Leu Phe Phe Lys Asp Asp Phe Ile Leu Glu Val Asp
           2420
                              2425
Arg Leu Pro Asn Glu Thr Ala Gly Pro Glu Thr Gly Glu Ser Leu Ala
       2435
                           2440
Asn Asp Phe Leu Tyr Ser Asp Val Cys Arg Val Glu Thr Gly Glu Asn
                       2455
Cys Thr Ser Pro Ala Pro Lys Glu Glu Leu Leu Pro Val Glu Glu Thr
                   2470
                                      2475
Glu Gln Asp Lys Glu His Thr Cys Glu Thr Leu Leu Met Cys Ile Val
               2485
                                  2490
Thr Val Leu Ser His Gly Leu Arg Ser Gly Gly Val Gly Asp Val
           2500
                              2505
                                                  2510
Leu Arg Lys Pro Ser Lys Glu Glu Pro Leu Phe Ala Ala Arg Val Ile
       2515
                          2520
                                              2525
Tyr Asp Leu Leu Phe Phe Phe Met Val Ile Ile Val Leu Asn Leu
                       2535
                                          2540
Ile Phe Gly Val Ile Ile Asp Thr Phe Ala Asp Leu Arg Ser Glu Lys
                   2550
                                      2555
Gln Lys Lys Glu Glu Ile Leu Lys Thr Thr Cys Phe Ile Cys Gly Leu
               2565
                                  2570
Glu Arg Asp Lys Phe Asp Asn Lys Thr Val Thr Phe Glu Glu His Ile
                              2585
           2580
                                                  2590
Lys Glu Glu His Asn Met Trp His Tyr Leu Cys Phe Ile Val Leu Val
                          2600
                                              2605
Lys Val Lys Asp Ser Thr Glu Tyr Thr Gly Pro Glu Ser Tyr Val Ala
                      2615
                                          2620
Glu Met Ile Arg Glu Arg Asn Leu Asp Trp Phe Pro Arg Met Arg Ala
                                     2635
                   2630
Met Ser Leu Val Ser Ser Asp Ser Glu Gly Glu Gln Asn Glu Leu Arq
                                  2650
               2645
Asn Leu Gln Glu Lys Leu Glu Ser Thr Met Lys Leu Val Thr Asn Leu
                              2665
           2660
Ser Gly Gln Leu Ser Glu Leu Lys Asp Gln Met Thr Glu Gln Arg Lys
                          2680
                                              2685
Gln Lys Gln Arg Ile Gly Leu Leu Gly His Pro Pro His Met Asn Val
                       2695
                                          2700
Asn Pro Gln Gln Pro Ala
2705
                   2710
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<211> 2749
<212> PRT
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<213> Artificial Sequence

<220>

<400> 4

Met Ser Asp Lys Met Ser Ser Phe Leu His Ile Gly Asp Ile Cys Ser

1 5 10 15

Leu Tyr Ala Glu Gly Ser Thr Asn Gly Phe Ile Ser Thr Leu Gly Leu 20 25 30

Val Asp Asp Arg Cys Val Val Gln Pro Glu Ala Gly Asp Leu Asn Asn 35 40 45

Pro Pro Lys Lys Phe Arg Asp Cys Leu Phe Lys Leu Cys Pro Met Asn Arg Tyr Ser Ala Gln Lys Gln Phe Trp Lys Ala Ala Lys Pro Gly Ala Asn Ser Thr Thr Asp Ala Val Leu Leu Asn Lys Leu His His Ala Ala Asp Leu Glu Lys Lys Gln Asn Glu Thr Glu Asn Arg Lys Leu Leu Gly Thr Val Ile Gln Tyr Gly Asn Val Ile Gln Leu Leu His Leu Lys Ser Asn Lys Tyr Leu Thr Val Asn Lys Arg Leu Pro Ala Leu Leu Glu Lys Asn Ala Met Arg Val Thr Leu Asp Glu Ala Gly Asn Glu Gly Ser Trp Phe Tyr Ile Gln Pro Phe Tyr Lys Leu Arg Ser Ile Gly Asp Ser Val Val Ile Gly Asp Lys Val Val Leu Asn Pro Val Asn Ala Gly Gln Pro Leu His Ala Ser Ser His Gln Leu Val Asp Asn Pro Gly Cys Asn Glu Val Asn Ser Val Asn Cys Asn Thr Ser Trp Lys Ile Val Leu Phe Met Lys Trp Ser Asp Asn Lys Asp Asp Ile Leu Lys Gly Gly Asp Val Val Arg Leu Phe His Ala Glu Glu Glu Lys Phe Leu Thr Cys Asp Glu His Arg Lys Lys Gln His Val Phe Leu Arg Thr Thr Gly Arg Gln Ser Ala Thr Ser Ala Thr Ser Ser Lys Ala Leu Trp Glu Val Glu Val Val Gln His Asp Pro Cys Arg Gly Gly Ala Gly Tyr Trp Asn Ser Leu Phe Arg Phe Lys His Leu Ala Thr Gly His Tyr Leu Ala Ala Glu Val Asp Pro Asp Phe Glu Glu Cys Leu Glu Phe Gln Pro Ser Val Asp Pro Asp Gln Asp Ala Ser Arg Ser Arg Leu Arg Asn Ala Gln Glu Lys Met Val Tyr Ser Leu Val Ser Val Pro Glu Gly Asn Asp Ile Ser Ser Ile Phe Glu Leu Asp Pro Thr Thr Leu Arg Gly Gly Asp Ser Leu Val Pro Arg Asn Ser Tyr Val Arg Leu Arg His Leu Cys Thr Asn Thr Trp Val His Ser Thr Asn Ile Pro Ile Asp Lys Glu Glu Lys Pro Val Met Leu Lys Ile Gly Thr Ser Pro Leu Lys Glu Asp Lys Glu Ala Phe Ala Ile Val Pro Val Ser Pro Ala Glu Val Arg Asp Leu Asp Phe Ala Asn Asp Ala Ser Lys Val Leu Gly Ser Ile Ala Gly Lys Leu Glu Lys Gly Thr Ile Thr Gln Asn Glu Arg Arg Ser Val Thr Lys Leu Leu Glu Asp Leu Val Tyr Phe Val Thr Gly Gly Thr Asn Ser Gly Gln Asp Val Leu Glu Val Val Phe Ser Lys Pro Asn Arg Glu Arg Gln Lys Leu Met Arg Glu Gln Asn Ile Leu Lys Gln Ile Phe Lys Leu Leu Gln Ala Pro Phe Thr Asp Cys Gly Asp Gly Pro Met Leu Arg Leu Glu Glu Leu Gly Asp Gln

	530					535					540				
Arg 545	His	Ala	Pro	Phe	Arg 550	His	Ile	Cys	Arg	Leu 555	Cys	Tyr	Arg	Val	Leu 560
Arg	His	Ser	Gln	Gln 565	Asp	Tyr	Arg	Lys	Asn 570	Gln	Glu	Tyr	Ile	Ala 575	Lys
Gln	Phe	Gly	Phe 580	Met	Gln	Lys	Gln	Ile 585	Gly	Tyr	Asp	Val	Leu 590	Ala	Glu
Asp	Thr	Ile 595	Thr	Ala	Leu	Leu	His 600	Asn	Asn	Arg	Lys	Leu 605	Leu	Glu	Lys
His	Ile 610	Thr	Ala	Ala	Glu	Ile 615	Asp	Thr	Phe	Val	Ser 620	Leu	Val	Arg	Lys
Asn 625	Arg	Glu	Pro	Arg	Phe 630	Leu	Asp	Tyr	Leu	Ser 635	Asp	Leu	Cys	Val	Ser 640
Met	Asn	Lys	Ser	Ile 645	Pro	Val	Thr	Gln	Glu 650	Leu	Ile	Cys	Lys	Ala 655	Val
Leu	Asn	Pro	Thr 660	Asn	Ala	Asp	Ile	Leu 665	Ile	Glu	Thr	Lys	Leu 670	Val	Leu
	_	675				_	680					Asn 685			
Ala	Gly 690	Glu	Asp	Glu	Glu	Glu 695	Val	Trp	Leu	Phe	Trp 700	Arg	Asp	Ser	Asn
705					710					715		Gln	_		720
	_		-	725	_	_			730		_	Tyr		735	
Leu	Asn	Leu	Phe 740	Ala	Arg	Met	Cys	Leu 745	Asp	Arg	Gln	Tyr	Leu 750	Ala	Ile
Asn	Glu	Ile 755	Ser	Gly	Gln	Leu	Asp 760	Val	Asp	Leu		Leu 765	Arg	Cys	Met
	770					775					780	Phe			
785					790					795		Gln			800
	_	_		805					810			Glu		815	
_	_	_	820			_		825	_	_		Ile	830		
		835					840			_		Arg 845	_		
	850					855	_	_		_	860	Lys			
865					870					875		Gly			880
		-		885	_			-	890			Ala		895	_
			900					905				Met	910		_
		915	_	_			920		_			His 925	_		_
	930					935					940	Phe			
945					950					955		Gln			960
	-		_	965				_	970	_		Lys		975	
Ile	Leu	Gln	Phe 980	Ile	Leu	Asn	Val	Arg 985	Leu	Asp	Tyr	Arg	Ile 990	Ser	Cys
Leu	Leu	Cys 995	Ile	Phe	Lys	Arg	Glu 1000		Asp	Glu	Ser	Asn 1009		Gln	Ser
Ser	Glu 1010		Ser	Ser	Gly	Asn 101		Ser	Gln	Glu	Gly 102	Pro	Ser	Asn	Val

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Pro Gly Ala Leu Asp Phe Glu His Ile Glu Glu Gln Ala Glu Gly Ile
               1030
                                1035
Phe Gly Gly Ser Glu Glu Asn Thr Pro Leu Asp Leu Asp Asp His Gly
                            1050
            1045
Gly Arg Thr Phe Leu Arg Val Leu Leu His Leu Thr Met His Asp Tyr
         1060
                         1065
Pro Pro Leu Val Ser Gly Ala Leu Gln Leu Leu Phe Arg His Phe Ser
                      1080 1085
Gln Arg Gln Glu Val Leu Gln Ala Phe Lys Gln Val Gln Leu Leu Val
                   1095
                                   1100
Thr Ser Gln Asp Val Asp Asn Tyr Lys Gln Ile Lys Gln Asp Leu Asp
                1110
                                1115
Gln Leu Arg Ser Ile Val Glu Lys Ser Glu Leu Trp Val Tyr Lys Gly
                            1130
       1125
Gln Gly Pro Asp Glu Pro Met Asp Gly Ala Ser Gly Glu Asn Glu His
         1140
                1145
                                          1150
Lys Lys Thr Glu Glu Gly Thr Ser Lys Pro Leu Lys His Glu Ser Thr
            1160 1165
      1155
Ser Ser Tyr Asn Tyr Arg Val Val Lys Glu Ile Leu Ile Arg Leu Ser
                  1175
                                   1180
Lys Leu Cys Val Gln Glu Ser Ala Ser Val Arg Lys Ser Arg Lys Gln
                               1195
      1190
Gln Gln Arg Leu Leu Arg Asn Met Gly Ala His Ala Val Val Leu Glu
                            1210
            1205
Leu Leu Gln Ile Pro Tyr Glu Lys Ala Glu Asp Thr Lys Met Gln Glu
        1220 1225 1230
Ile Met Arg Leu Ala His Glu Phe Leu Gln Asn Phe Cys Ala Gly Asn
     1235
            1240 1245
Gln Gln Asn Gln Ala Leu Leu His Lys His Ile Asn Leu Phe Leu Asn
         1255
                                  1260
Pro Gly Ile Leu Glu Ala Val Thr Met Gln His Ile Phe Met Asn Asn
     1270 1275 1280
Phe Gln Leu Cys Ser Glu Ile Asn Glu Arg Val Val Gln His Phe Val
            1285 1290 1295
His Cys Ile Glu Thr His Gly Arg Asn Val Gln Tyr Ile Lys Phe Leu
         1300
                        1305
Gln Thr Ile Val Lys Ala Glu Gly Lys Phe Ile Lys Lys Cys Gln Asp
     1315 1320 1325
Met Val Met Ala Glu Leu Val Asn Ser Gly Glu Asp Val Leu Val Phe
                  1335
                                   1340
Tyr Asn Asp Arg Ala Ser Phe Gln Thr Leu Ile Gln Met Met Arg Ser
               1350
                               1355
Glu Arg Asp Arg Met Asp Glu Asn Ser Pro Leu Phe Met Tyr His Ile
            1365
                            1370
His Leu Val Glu Leu Leu Ala Val Cys Thr Glu Gly Lys Asn Val Tyr
                         1385
Thr Glu Ile Lys Cys Asn Ser Leu Leu Pro Leu Asp Asp Ile Val Arg
                      1400
Val Val Thr His Glu Asp Cys Ile Pro Glu Val Lys Ile Ala Tyr Ile
                  1415
                                   1420
Asn Phe Leu Asn His Cys Tyr Val Asp Thr Glu Val Glu Met Lys Glu
               1430
                                1435
Ile Tyr Thr Ser Asn His Met Trp Lys Leu Phe Glu Asn Phe Leu Val
            1445
                            1450
Asp Ile Cys Arg Ala Cys Asn Asn Thr Ser Asp Arg Lys His Ala Asp
         1460
                         1465
                                         1470
Ser Val Leu Glu Lys Tyr Val Thr Glu Ile Val Met Ser Ile Val Thr
      1475
                      1480
                                      1485
Thr Phe Phe Ser Ser Pro Phe Ser Asp Gln Ser Thr Thr Leu Gln Thr
   1490 1495 1500
Arg Gln Pro Val Phe Val Gln Leu Leu Gln Gly Val Phe Arg Val Tyr
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1505	1510	1515	1520
	Met Pro Ser Gln Lys		
Ile Arg Val Leu Ser	Asp Val Ala Lys Ser	Arg Ala Ile Ala Ile	e Pro
1540	1545	1550	
Val Asp Leu Asp Ser	Gln Val Asn Asn Leu	Phe Leu Lys Ser His	s Asn
1555	1560	1565	
Ile Val Gln Lys Thr	Ala Met Asn Trp Arg	Leu Ser Ala Arg Asr	n Ala
1570	1575	1580	
Ala Arg Arg Asp Asp	Val Leu Ala Ala Ser	Arg Asp Tyr Arg Asr	11e
1585	1590	1595	1600
160		0 161	.5
Pro Leu Val Gln Ala	Glu Leu Ser Val Leu	Val Asp Val Leu His	arg
1620	1625	1630	
Pro Glu Leu Leu Phe	Pro Glu Asn Thr Asp	Ala Arg Arg Lys Cys	Glu
1635	1640	1645	
Ser Gly Gly Phe Ile	Cys Lys Leu Ile Lys	His Thr Lys Gln Let	ı Leu
1650	1655	1660	
Glu Glu Asn Glu Glu	Lys Leu Cys Ile Lys	Val Leu Gln Thr Leu	1 Arg
1665	1670	1675	1680
Glu Met Met Thr Lys 168	Asp Arg Gly Tyr Gly 5 169		
Asp Glu Leu Glu Asn	Ala Glu Leu Pro Gln	Pro Pro Glu Ala Glu	ı Asn
1700	1705	1710	
Ser Thr Glu Glu Leu	Glu Pro Ser Pro Pro	Leu Arg Gln Leu Glu	ı Asp
1715	1720	1725	
His Lys Arg Gly Glu	Ala Leu Arg Gln Ile	Leu Val Asn Arg Tyn	Tyr
1730	1735	1740	
Gly Asn Ile Arg Pro	Ser Gly Arg Arg Glu	Ser Leu Thr Ser Phe	e Gly
1745	1750		1760
176		0 177	75
1780	Gly Ser Thr Ser Arg 1785	1790	
1795	Leu Asp Lys Glu Gly 1800	1805	
1810	Ala Ser Ser Asp Arg 1815	1820	
1825	Leu Leu Glu Gly Gly 1830	1835	1840
184		0 189	55
Lys Val Phe Tyr Asp	Arg Met Lys Val Ala	Gln Gln Glu Ile Ly:	s Ala
1860	1865	1870	
Thr Val Thr Val Asn	Thr Ser Asp Leu Gly	Asn Lys Lys Lys Ası	) Asp
1875	1880	1885	
Glu Val Asp Arg Asp	Ala Pro Ser Arg Lys	Lys Ala Lys Glu Pro	o Thr
1890	1895	1900	
Thr Gln Ile Thr Glu	Glu Val Arg Asp Gln	Leu Leu Glu Ala Sei	r Ala
1905	1910	1915	1920
Ala Thr Arg Lys Ala 192	Phe Thr Thr Phe Arg 5 193	-	_
Asp His Tyr Gln Ser	Gly Glu Gly Thr Gln	Ala Thr Thr Asp Lys	s Ala
1940	1945	1950	
Lys Asp Asp Leu Glu 1955	Met Ser Ala Val Ile 1960	Thr Ile Met Gln Pro	o Ile
Leu Arg Phe Leu Gln	Leu Leu Cys Glu Asn	His Asn Arg Asp Let	u Gln
1970	1975	1980	
Asn Phe Leu Arg Cys	Gln Asn Asn Lys Thr	Asn Tyr Asn Leu Va	l Cys
1985	1990	1995	2000

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Glu Thr Leu Gln Phe Leu Asp Cys Ile Cys Gly Ser Thr Thr Gly Gly
                             2010
Leu Gly Leu Leu Gly Leu Tyr Ile Asn Glu Lys Asn Val Ala Leu Ile
         2020
                          2025
Asn Gln Thr Leu Glu Ser Leu Thr Glu Tyr Cys Gln Gly Pro Cys His
                       2040
Glu Asn Gln Asn Cys Ile Ala Thr His Glu Ser Asn Gly Ile Asp Ile
                   2055
                                    2060
Ile Thr Ala Leu Ile Leu Asn Asp Ile Asn Pro Leu Gly Lys Lys Arg
                2070
                                 2075
Met Asp Leu Val Leu Glu Leu Lys Asn Asn Ala Ser Lys Leu Leu Leu
                              2090
             2085
Ala Ile Met Glu Ser Arg His Asp Ser Glu Asn Ala Glu Arg Ile Leu
                          2105
Tyr Asn Met Arg Pro Lys Glu Leu Val Glu Val Ile Lys Lys Ala Tyr
                       2120
Met Gln Gly Glu Val Glu Phe Glu Asp Gly Glu Asp Gly Glu Asp Gly
                   2135
                                    2140
Ala Ala Ser Pro Arg Asn Val Gly His Asn Ile Tyr Ile Leu Ala His
                2150 . 2155
Gln Leu Ala Arg His Asn Lys Glu Leu Gln Thr Met Leu Lys Pro Gly
                              2170 2175
            2165
Gly Gln Val Asp Gly Asp Glu Ala Leu Glu Phe Tyr Ala Lys His Thr
                          2185
          2180
                                           2190
Ala Gln Ile Glu Ile Val Arg Leu Asp Arg Thr Met Glu Gln Ile Val
                      2200
                                       2205
Phe Pro Val Pro Ser Ile Cys Glu Phe Leu Thr Lys Glu Ser Lys Leu
                   2215
                                    2220
Arg Ile Tyr Tyr Thr Thr Glu Arg Asp Glu Gln Gly Ser Lys Ile Asn
      2230
                                2235
Asp Phe Phe Leu Arg Ser Glu Asp Leu Phe Asn Glu Met Asn Trp Gln
                             2250 2255
            2245
Lys Lys Leu Arg Ala Gln Pro Val Leu Tyr Trp Cys Ala Arg Asn Met
         2260
                          2265
Ser Phe Trp Ser Ser Ile Ser Phe Asn Leu Ala Val Leu Met Asn Leu
     2275
                                       2285
                      2280
Leu Val Ala Phe Phe Tyr Pro Phe Lys Gly Val Arg Gly Gly Thr Leu
                  2295
                                    2300
Glu Pro His Trp Ser Gly Leu Leu Trp Thr Ala Met Leu Ile Ser Leu
                                2315
                2310
Ala Ile Val Ile Ala Leu Pro Lys Pro His Gly Ile Arg Ala Leu Ile
                             2330
             2325
Ala Ser Thr Ile Leu Arg Leu Ile Phe Ser Val Gly Leu Gln Pro Thr
         2340
                          2345
Leu Phe Leu Gly Ala Phe Asn Val Cys Asn Lys Ile Ile Phe Leu
                      2360
                                      2365
Met Ser Phe Val Gly Asn Cys Gly Thr Phe Thr Arg Gly Tyr Arg Ala
                   2375
                                    2380
Met Val Leu Asp Val Glu Phe Leu Tyr His Leu Leu Tyr Leu Leu Ile
                2390
                                 2395 2400
Cys Ala Met Gly Leu Phe Val His Glu Phe Phe Tyr Ser Leu Leu Leu
                             2410 2415
             2405
Phe Asp Leu Val Tyr Arg Glu Glu Thr Leu Leu Asn Val Ile Lys Ser
         2420
                          2425
Val Thr Arg Asn Gly Arg Pro Ile Ile Leu Thr Ala Ala Leu Ala Leu
                      2440
Ile Leu Val Tyr Leu Phe Ser Ile Val Gly Tyr Leu Phe Phe Lys Asp
                   2455
                                    2460
Asp Phe Ile Leu Glu Val Asp Arg Leu Pro Asn Glu Thr Ala Gly Pro
                2470 2475
Glu Thr Gly Glu Ser Leu Ala Asn Asp Phe Leu Tyr Ser Asp Val Cys
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2490 2485 Arg Val Glu Thr Gly Glu Asn Cys Thr Ser Pro Ala Pro Lys Glu Glu 2500 2505 2510 Leu Leu Pro Val Glu Glu Thr Glu Gln Asp Lys Glu His Thr Cys Glu 2520 Thr Leu Leu Met Cys Ile Val Thr Val Leu Ser His Gly Leu Arg Ser 2535 2540 Gly Gly Val Gly Asp Val Leu Arg Lys Pro Ser Lys Glu Glu Pro 2550 2555 Leu Phe Ala Ala Arg Val Ile Tyr Asp Leu Leu Phe Phe Met Val 2570 2565 Ile Ile Ile Val Leu Asn Leu Ile Phe Gly Val Ile Ile Asp Thr Phe 2585 2580 2590 Ala Asp Leu Arg Ser Glu Lys Gln Lys Lys Glu Glu Ile Leu Lys Thr 2600 Thr Cys Phe Ile Cys Gly Leu Glu Arg Asp Lys Phe Asp Asn Lys Thr 2615 2620 Val Thr Phe Glu Glu His Ile Lys Glu Glu His Asn Met Trp His Tyr 2635 2630 Leu Cys Phe Ile Val Leu Val Lys Val Lys Asp Ser Thr Glu Tyr Thr 2650 / 2655 2645 Gly Pro Glu Ser Tyr Val Ala Glu Met Ile Arg Glu Arg Asn Leu Asp 2660 2665 Trp Phe Pro Arg Met Arg Ala Met Ser Leu Val Ser Ser Asp Ser Glu 2685 2680 Gly Glu Gln Asn Glu Leu Arg Asn Leu Gln Glu Lys Leu Glu Ser Thr 2695 2700 Met Lys Leu Val Thr Asn Leu Ser Gly Gln Leu Ser Glu Leu Lys Asp 2710 2715 Gln Met Thr Glu Gln Arg Lys Gln Lys Gln Arg Ile Gly Leu Leu Gly 2730 His Pro Pro His Met Asn Val Asn Pro Gln Gln Pro Ala <210> 5 <211> 2710 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence:/note = synthetic construct <400> 5 Met Ser Asp Lys Met Ser Ser Phe Leu His Ile Gly Asp Ile Cys Ser 10

Leu Tyr Ala Glu Gly Ser Thr Asn Gly Phe Ile Ser Thr Leu Gly Leu 25 Val Asp Asp Arg Cys Val Val Gln Pro Glu Ala Gly Asp Leu Asn Asn 40 Pro Pro Lys Lys Phe Arg Asp Cys Leu Phe Lys Leu Cys Pro Met Asn 55 Arg Tyr Ser Ala Gln Lys Gln Phe Trp Lys Ala Ala Lys Pro Gly Ala 75 70 Asn Ser Thr Thr Asp Ala Val Leu Leu Asn Lys Leu His His Ala Ala 90 85 Asp Leu Glu Lys Lys Gln Asn Glu Thr Glu Asn Arg Lys Leu Leu Gly 100 105 Thr Val Ile Gln Tyr Gly Asn Val Ile Gln Leu Leu His Leu Lys Ser 120 115

Asn Lys Tyr Leu Thr Val Asn Lys Arg Leu Pro Ala Leu Leu Glu Lys Asn Ala Met Arg Val Thr Leu Asp Glu Ala Gly Asn Glu Gly Ser Trp Phe Tyr Ile Gln Pro Phe Tyr Lys Leu Arg Ser Ile Gly Asp Ser Val Val Ile Gly Asp Lys Val Val Leu Asn Pro Val Asn Ala Gly Gln Pro Leu His Ala Ser Ser His Gln Leu Val Asp Asn Pro Gly Cys Asn Glu Val Asn Ser Val Asn Cys Asn Thr Ser Trp Lys Ile Val Leu Phe Met Lys Trp Ser Asp Asn Lys Asp Asp Ile Leu Lys Gly Asp Val Val Arg Leu Phe His Ala Glu Glu Lys Phe Leu Thr Cys Asp Glu His Arg Lys Lys Gln His Val Phe Leu Arg Thr Thr Gly Arg Gln Ser Ala Thr Ser Ala Thr Ser Ser Lys Ala Leu Trp Glu Val Glu Val Val Gln His Asp Pro Cys Arg Gly Gly Ala Gly Tyr Trp Asn Ser Leu Phe Arg Phe Lys His Leu Ala Thr Gly His Tyr Leu Ala Ala Glu Val Asp Pro Asp Phe Glu Glu Cys Leu Glu Phe Gln Pro Ser Val Asp Pro Asp Gln Asp Ala Ser Arg Ser Arg Leu Arg Asn Ala Gln Glu Lys Met Val Tyr Ser Leu Val Ser Val Pro Glu Gly Asn Asp Ile Ser Ser Ile Phe Glu Leu Asp Pro Thr Thr Leu Arg Gly Gly Asp Ser Leu Val Pro Arg Asn Ser Tyr Val Arg Leu Arg His Leu Cys Thr Asn Thr Trp Val His Ser Thr Asn Ile Pro Ile Asp Lys Glu Glu Glu Lys Pro Val Met Leu Lys Ile Gly Thr Ser Pro Leu Lys Glu Asp Lys Glu Ala Phe Ala Ile Val Pro Val Ser Pro Ala Glu Val Arg Asp Leu Asp Phe Ala Asn Asp Ala Ser Lys Val Leu Gly Ser Ile Ala Gly Lys Leu Glu Lys Gly Thr Ile Thr Gln Asn Glu Arg Arg Ser Val Thr Lys Leu Leu Glu Asp Leu Val Tyr Phe Val Thr Gly Gly Thr Asn Ser Gly Gln Asp Val Leu Glu Val Val Phe Ser Lys Pro Asn Arg Glu Arg Gln Lys Leu Met Arg Glu Gln Asn Ile Leu Lys Gln Ile Phe Lys Leu Leu Gln Ala Pro Phe Thr Asp Cys Gly Asp Gly Pro Met Leu Arg Leu Glu Glu Leu Gly Asp Gln Arg His Ala Pro Phe Arg His Ile Cys Arg Leu Cys Tyr Arg Val Leu Arg His Ser Gln Gln Asp Tyr Arg Lys Asn Gln Glu Tyr Ile Ala Lys Gln Phe Gly Phe Met Gln Lys Gln Ile Gly Tyr Asp Val Leu Ala Glu Asp Thr Ile Thr Ala Leu Leu His Asn Asn Arg Lys Leu Leu Glu Lys His Ile Thr Ala Ala Glu Ile Asp Thr Phe Val Ser Leu Val Arg Lys

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615
                                         620
Asn Arg Glu Pro Arg Phe Leu Asp Tyr Leu Ser Asp Leu Cys Val Ser
                   630
                                      635
Met Asn Lys Ser Ile Pro Val Thr Gln Glu Leu Ile Cys Lys Ala Val
               645
                                  650
Leu Asn Pro Thr Asn Ala Asp Ile Leu Ile Glu Thr Lys Leu Val Leu
                              665
Ser Arg Phe Glu Phe Glu Gly Val Ser Thr Gly Glu Asn Ala Leu Glu
                          680
Ala Gly Glu Asp Glu Glu Glu Val Trp Leu Phe Trp Arg Asp Ser Asn
                       695
Lys Glu Ile Arg Ser Lys Ser Val Arg Glu Leu Ala Gln Asp Ala Lys
                   710
                                      715
Glu Gly Gln Lys Glu Asp Arg Asp Val Leu Ser Tyr Tyr Arg Tyr Gln
                                  730
               725
Leu Asn Leu Phe Ala Arg Met Cys Leu Asp Arg Gln Tyr Leu Ala Ile
           740
                              745
Asn Glu Ile Ser Gly Gln Leu Asp Val Asp Leu Ile Leu Arg Cys Met
                          760
Ser Asp Glu Asn Leu Pro Tyr Asp Leu Arg Ala Ser Phe Cys Arg Leu
                     775
                                          780
Met Leu His Met His Val Asp Arg Asp Pro Gln Glu Gln Val Thr Pro
                   790
                                      795
Val Lys Tyr Ala Arg Leu Trp Ser Glu Ile Pro Ser Glu Ile Ala Ile
                                  810
              805
Asp Asp Tyr Asp Ser Ser Gly Ala Ser Lys Asp Glu Ile Lys Glu Arg
 820
                              825
                                                  830
Phe Ala Gln Thr Met Glu Phe Val Glu Glu Tyr Leu Arg Asp Val Val
                          840
                                             845
Cys Gln Arg Phe Pro Phe Ser Asp Lys Glu Lys Asn Lys Leu Thr Phe
                   855
                                         860
Glu Val Val Asn Leu Ala Arg Asn Leu Ile Tyr Phe Gly Phe Tyr Asn
                  870
                                     875
Phe Ser Asp Leu Leu Arg Leu Thr Lys Ile Leu Leu Ala Ile Leu Asp
              885
                                  890
Cys Val His Val Thr Thr Ile Phe Pro Ile Ser Lys Met Thr Lys Gly
           900
                              905
Glu Glu Asn Lys Gly Ser Asn Val Met Arg Ser Ile His Gly Val Gly
                          920
                                              925
Glu Leu Met Thr Gln Val Val Leu Arg Gly Gly Phe Leu Pro Met
                       935
                                          940
Thr Pro Met Ala Ala Ala Pro Glu Gly Asn Val Lys Gln Ala Glu Pro
                   950
                                      955
Glu Lys Glu Asp Ile Met Val Met Asp Thr Lys Leu Lys Ile Ile Glu
                                  970
Ile Leu Gln Phe Ile Leu Asn Val Arg Leu Asp Tyr Arg Ile Ser Cys
                              985
Leu Leu Cys Ile Phe Lys Arg Glu Phe Asp Glu Ser Asn Ser Gln Ser
                          1000
Ser Glu Thr Ser Ser Gly Asn Ser Ser Gln Glu Gly Pro Ser Asn Val
                       1015
                                         1020
Pro Gly Ala Leu Asp Phe Glu His Ile Glu Glu Gln Ala Glu Gly Ile
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                                     1035
Phe Gly Gly Ser Glu Glu Asn Thr Pro Leu Asp Leu Asp Asp His Gly
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               1045
Gly Arg Thr Phe Leu Arg Val Leu Leu His Leu Thr Met His Asp Tyr
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                    1065
Pro Pro Leu Val Ser Gly Ala Leu Gln Leu Leu Phe Arg His Phe Ser
                          1080 1085
Gln Arg Gln Glu Val Leu Gln Ala Phe Lys Gln Val Gln Leu Leu Val
   1090
                       1095
                                         1100
```

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Thr Ser Gln Asp Val Asp Asn Tyr Lys Gln Ile Lys Gln Asp Leu Asp
                1110
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1105
Gln Leu Arg Ser Ile Val Glu Lys Ser Glu Leu Trp Val Tyr Lys Gly
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Gln Gly Pro Asp Glu Pro Met Asp Gly Ala Ser Gly Glu Asn Glu His
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          1140
Lys Lys Thr Glu Glu Gly Thr Ser Lys Pro Leu Lys His Glu Ser Thr
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                       1160
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Ser Ser Tyr Asn Tyr Arg Val Val Lys Glu Ile Leu Ile Arg Leu Ser
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Lys Leu Cys Val Gln Glu Ser Ala Ser Val Arg Lys Ser Arg Lys Gln
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Gln Gln Arg Leu Leu Arg Asn Met Gly Ala His Ala Val Val Leu Glu
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                             1210
Leu Leu Gln Ile Pro Tyr Glu Lys Ala Glu Asp Thr Lys Met Gln Glu
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Ile Met Arg Leu Ala His Glu Phe Leu Gln Asn Phe Cys Ala Gly Asn
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Gln Gln Asn Gln Ala Leu Leu His Lys His Ile Asn Leu Phe Leu Asn
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Pro Gly Ile Leu Glu Ala Val Thr Met Gln His Ile Phe Met Asn Asn
                1270
                                1275
Phe Gln Leu Cys Ser Glu Ile Asn Glu Arg Val Val Gln His Phe Val
             1285
                             1290
His Cys Ile Glu Thr His Gly Arg Asn Val Gln Tyr Ile Lys Phe Leu
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Gln Thr Ile Val Lys Ala Glu Gly Lys Phe Ile Lys Lys Cys Gln Asp
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Met Val Met Ala Glu Leu Val Asn Ser Gly Glu Asp Val Leu Val Phe
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Tyr Asn Asp Arg Ala Ser Phe Gln Thr Leu Ile Gln Met Met Arg Ser
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1345 1350
Glu Arg Asp Arg Met Asp Glu Asn Ser Pro Leu Phe Met Tyr His Ile
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                             1370
His Leu Val Glu Leu Leu Ala Val Cys Thr Glu Gly Lys Asn Val Tyr
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Thr Glu Ile Lys Cys Asn Ser Leu Leu Pro Leu Asp Asp Ile Val Arg
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Val Val Thr His Glu Asp Cys Ile Pro Glu Val Lys Ile Ala Tyr Ile
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Asn Phe Leu Asn His Cys Tyr Val Asp Thr Glu Val Glu Met Lys Glu
                                 1435
                1430
Ile Tyr Thr Ser Asn His Met Trp Lys Leu Phe Glu Asn Phe Leu Val
             1445
                              1450
Asp Ile Cys Arg Ala Cys Asn Asn Thr Ser Asp Arg Lys His Ala Asp
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                          1465
Ser Val Leu Glu Lys Tyr Val Thr Glu Ile Val Met Ser Ile Val Thr
      1475
                       1480
                                        1485
Thr Phe Phe Ser Ser Pro Phe Ser Asp Gln Ser Thr Thr Leu Gln Thr
   1490 1495
                                     1500
Arg Gln Pro Val Phe Val Gln Leu Leu Gln Gly Val Phe Arg Val Tyr
1505 1510 1515
His Cys Asn Trp Leu Met Pro Ser Gln Lys Ala Ser Val Glu Ser Cys
             1525 1530
Ile Arg Val Leu Ser Asp Val Ala Lys Ser Arg Ala Ile Ala Ile Pro
                          1545
          1540
Val Asp Leu Asp Ser Gln Val Asn Asn Leu Phe Leu Lys Ser His Asn
                       1560
      1555
                                        1565
Ile Val Gln Lys Thr Ala Met Asn Trp Arg Leu Ser Ala Arg Asn Ala
   1570 1575
                                     1580
Ala Arg Arg Asp Ser Val Leu Ala Ala Ser Arg Asp Tyr Arg Asn Ile
```

1585	1590	1595	1600
Ile Glu Arg Leu Gln 160		a Leu Glu Asp Arg Leu 10 1615	
Pro Leu Val Gln Ala 1620	Glu Leu Ser Val Leu 1625	val Asp Val Leu His 1630	Arg
Pro Glu Leu Leu Phe 1635	Pro Glu Asn Thr Asp 1640	o Ala Arg Arg Lys Cys 1645	Glu
Ser Gly Gly Phe Ile 1650	Cys Lys Leu Ile Lys 1655	s His Thr Lys Gln Leu 1660	Leu
Glu Glu Asn Glu Glu 1665	Lys Leu Cys Ile Ly: 1670	s Val Leu Gln Thr Leu 1675	Arg 1680
Glu Met Met Thr Lys 168		y Glu Lys Gly Glu Ala 90	
Arg Gln Ile Leu Val 1700	Asn Arg Tyr Tyr Gly 1705	y Asn Ile Arg Pro Ser 1710	Gly
1715	1720	n Gly Pro Leu Ser Pro 1725	
Gly Pro Ser Lys Pro 1730	Gly Gly Gly Gly Gly 1735	y Gly Pro Gly Ser Gly 1740	Ser
1745	1750	ı Val Gln Cys His Leu 1755	1760
176	5 17		i
1780	1785	ı Leu Ala Ile Ala Leu 1790	
1795	1800	r Phe Phe Cys Arg Leu 1805	
1810	1815	s Val Phe Tyr Asp Arg 1820	
1825	1830	1000	1840
184	5 189		;
1860	1865	r Gln Ile Thr Glu Glu 1870	
1875	1880	a Thr Arg Lys Ala Phe 1885	
1890	1895	o His Tyr Gln Ser Gly 1900	
1905	1910	s Asp Asp Leu Glu Met 1915	1920
192	5 19		;
1940	1945	n Phe Leu Arg Cys Gln 1950	
1955	1960	u Thr Leu Gln Phe Leu 1965	
1970	1975	u Gly Leu Leu Gly Leu 1980	
1985	1990	n Gln Thr Leu Glu Ser 1995	2000
200	5 20		5
2020	2025	e Thr Ala Leu Ile Leu 2030	
2035	2040	t Asp Leu Val Leu Glu 2045	
2050	2055	a Ile Met Glu Ser Arg 2060	
Asp Ser Glu Asn Ala 2065	Glu Arg Ile Leu Ty 2070	r Asn Met Arg Pro Lys 2075	Glu 2080

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Leu Val Glu Val Ile Lys Lys Ala Tyr Met Gln Gly Glu Val Glu Phe
            2085
                           2090
Glu Asp Gly Glu Asn Gly Glu Asp Gly Ala Ala Ser Pro Arg Asn Val
                        2105
Gly His Asn Ile Tyr Ile Leu Ala His Gln Leu Ala Arg His Asn Lys
                     2120
Glu Leu Gln Thr Met Leu Lys Pro Gly Gly Gln Val Asp Gly Asp Glu
                  2135
                                  2140
Ala Leu Glu Phe Tyr Ala Lys His Thr Ala Gln Ile Glu Ile Val Arg
2145 2150
                     2155
Leu Asp Arg Thr Met Glu Gln Ile Val Phe Pro Val Pro Ser Ile Cys
            2165
                            2170
Glu Phe Leu Thr Lys Glu Ser Lys Leu Arg Ile Tyr Tyr Thr Thr Glu
         2180
                        2185
Arg Asp Glu Gln Gly Ser Lys Ile Asn Asp Phe Phe Leu Arg Ser Glu
                     2200
Asp Leu Phe Asn Glu Met Asn Trp Gln Lys Lys Leu Arg Ala Gln Pro
                  2215
                                  2220
Val Leu Tyr Trp Cys Ala Arg Asn Met Ser Phe Trp Ser Ser Ile Ser
               2230 2235
Phe Asn Leu Ala Val Leu Met Asn Leu Leu Val Ala Phe Phe Tyr Pro
                           2250 2255
      2245
Phe Lys Gly Val Arg Gly Gly Thr Leu Glu Pro His Trp Ser Gly Leu
         2260
               2265
                                       2270
Leu Trp Thr Ala Met Leu Ile Ser Leu Ala Ile Val Ile Ala Leu Pro
     2275 2280 2285
Lys Pro His Gly Ile Arg Ala Leu Ile Ala Ser Thr Ile Leu Arg Leu
                 2295 2300
Ile Phe Ser Val Gly Leu Gln Pro Thr Leu Phe Leu Gly Ala Phe
              2310 2315
Asn Val Cys Asn Lys Ile Ile Phe Leu Met Ser Phe Val Gly Asn Cys
       2325 2330
Gly Thr Phe Thr Arg Gly Tyr Arg Ala Met Val Leu Asp Val Glu Phe
        2340 2345
                                       2350
Leu Tyr His Leu Leu Tyr Leu Leu Ile Cys Ala Met Gly Leu Phe Val
     2355 2360 2365
His Glu Phe Phe Tyr Ser Leu Leu Phe Asp Leu Val Tyr Arg Glu
  2370 2375 2380
Glu Thr Leu Leu Asn Val Ile Lys Ser Val Thr Arg Asn Gly Arg Pro
      2390
                              2395
Ile Ile Leu Thr Ala Ala Leu Ala Leu Ile Leu Val Tyr Leu Phe Ser
      2405 2410
Ile Val Gly Tyr Leu Phe Phe Lys Asp Phe Ile Leu Glu Val Asp
        2420 2425
Arg Leu Pro Asn Glu Thr Ala Gly Pro Glu Thr Gly Glu Ser Leu Ala
                     2440
Asn Asp Phe Leu Tyr Ser Asp Val Cys Arg Val Glu Thr Gly Glu Asn
                 2455
                                 2460
Cys Thr Ser Pro Ala Pro Lys Glu Glu Leu Leu Pro Val Glu Glu Thr
               2470
                              2475
Glu Gln Asp Lys Glu His Thr Cys Glu Thr Leu Leu Met Cys Ile Val
                           2490
Thr Val Leu Ser His Gly Leu Arg Ser Gly Gly Val Gly Asp Val
                        2505
Leu Arg Lys Pro Ser Lys Glu Glu Pro Leu Phe Ala Ala Arg Val Ile
     2515 2520
                                    2525
Tyr Asp Leu Leu Phe Phe Met Val Ile Ile Val Leu Asn Leu
  2530 2535
                                  2540
Ile Phe Gly Val Ile Ile Asp Thr Phe Ala Asp Leu Arg Ser Glu Lys
Gln Lys Lys Glu Glu Ile Leu Lys Thr Thr Cys Phe Ile Cys Gly Leu
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2565
                                    2570
Glu Arg Asp Lys Phe Asp Asn Lys Thr Val Thr Phe Glu Glu His Ile
            2580
                                2585
Lys Glu Glu His Asn Met Trp His Tyr Leu Cys Phe Ile Val Leu Val
                            2600
                                                2605
Lys Val Lys Asp Ser Thr Glu Tyr Thr Gly Pro Glu Ser Tyr Val Ala
                        2615
                                             2620
Glu Met Ile Arg Glu Arg Asn Leu Asp Trp Phe Pro Arg Met Arg Ala
                    2630
                                         2635
Met Ser Leu Val Ser Ser Asp Ser Glu Gly Glu Gln Asn Glu Leu Arg
                2645
                                    2650
Asn Leu Gln Glu Lys Leu Glu Ser Thr Met Lys Leu Val Thr Asn Leu
                                2665
Ser Gly Gln Leu Ser Glu Leu Lys Asp Gln Met Thr Glu Gln Arq Lys
                            2680
Gln Lys Gln Arg Ile Gly Leu Leu Gly His Pro Pro His Met Asn Val
                        2695
                                             2700
Asn Pro Gln Gln Pro Ala
2705
                    2710
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Leu Tyr Ala Glu Gly Ser Thr Asn Gly Phe Ile Ser Thr Leu Gly Leu
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Val Asp Asp Arg Cys Val Val Gln Pro Glu Ala Gly Asp Leu Asn Asn
                            40
                                                45
Pro Pro Lys Lys Phe Arg Asp Cys Leu Phe Lys Leu Cys Pro Met Asn
                        55
                                             60
Arg Tyr Ser Ala Gln Lys Gln Phe Trp Lys Ala Ala Lys Pro Gly Ala
                    70
                                        75
Asn Ser Thr Thr Asp Ala Val Leu Leu Asn Lys Leu His His Ala Ala
                85
                                    90
Asp Leu Glu Lys Lys Gln Asn Glu Thr Glu Asn Arg Lys Leu Leu Gly
                                105
            100
                                                    110
Thr Val Ile Gln Tyr Gly Asn Val Ile Gln Leu Leu His Leu Lys Ser
                            120
                                                125
Asn Lys Tyr Leu Thr Val Asn Lys Arg Leu Pro Ala Leu Leu Glu Lys
                        135
                                            140
Asn Ala Met Arg Val Thr Leu Asp Glu Ala Gly Asn Glu Gly Ser Trp
                    150
                                        155
Phe Tyr Ile Gln Pro Phe Tyr Lys Leu Arg Ser Ile Gly Asp Ser Val
                                    170
Val Ile Gly Asp Lys Val Val Leu Asn Pro Val Asn Ala Gly Gln Pro
            180
                                185
Leu His Ala Ser Ser His Gln Leu Val Asp Asn Pro Gly Cys Asn Glu
                            200
Val Asn Ser Val Asn Cys Asn Thr Ser Trp Lys Ile Val Leu Phe Met
                       215
                                            220
Lys Trp Ser Asp Asn Lys Asp Asp Ile Leu Lys Gly Gly Asp Val Val
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235

Arg Leu Phe His Ala Glu Glu Glu Lys Phe Leu Thr Cys Asp Glu His Arg Lys Lys Gln His Val Phe Leu Arg Thr Thr Gly Arg Gln Ser Ala Thr Ser Ala Thr Ser Ser Lys Ala Leu Trp Glu Val Glu Val Val Gln His Asp Pro Cys Arg Gly Gly Ala Gly Tyr Trp Asn Ser Leu Phe Arg Phe Lys His Leu Ala Thr Gly His Tyr Leu Ala Ala Glu Val Asp Pro Asp Phe Glu Glu Glu Cys Leu Glu Phe Gln Pro Ser Val Asp Pro Asp Gln Asp Ala Ser Arg Ser Arg Leu Arg Asn Ala Gln Glu Lys Met Val Tyr Ser Leu Val Ser Val Pro Glu Gly Asn Asp Ile Ser Ser Ile Phe Glu Leu Asp Pro Thr Thr Leu Arg Gly Gly Asp Ser Leu Val Pro Arg Asn Ser Tyr Val Arg Leu Arg His Leu Cys Thr Asn Thr Trp Val His Ser Thr Asn Ile Pro Ile Asp Lys Glu Glu Lys Pro Val Met Leu Lys Ile Gly Thr Ser Pro Leu Lys Glu Asp Lys Glu Ala Phe Ala Ile Val Pro Val Ser Pro Ala Glu Val Arg Asp Leu Asp Phe Ala Asn Asp Ala Ser Lys Val Leu Gly Ser Ile Ala Gly Lys Leu Glu Lys Gly Thr Ile Thr Gln Asn Glu Arg Arg Ser Val Thr Lys Leu Leu Glu Asp Leu Val Tyr Phe Val Thr Gly Gly Thr Asn Ser Gly Gln Asp Val Leu Glu Val Val Phe Ser Lys Pro Asn Arg Glu Arg Gln Lys Leu Met Arg Glu Gln Asn Ile Leu Lys Gln Ile Phe Lys Leu Leu Gln Ala Pro Phe Thr Asp Cys Gly Asp Gly Pro Met Leu Arg Leu Glu Glu Leu Gly Asp Gln Arg His Ala Pro Phe Arg His Ile Cys Arg Leu Cys Tyr Arg Val Leu Arg His Ser Gln Gln Asp Tyr Arg Lys Asn Gln Glu Tyr Ile Ala Lys Gln Phe Gly Phe Met Gln Lys Gln Ile Gly Tyr Asp Val Leu Ala Glu Asp Thr Ile Thr Ala Leu Leu His Asn Asn Arg Lys Leu Leu Glu Lys His Ile Thr Ala Ala Glu Ile Asp Thr Phe Val Ser Leu Val Arg Lys Asn Arg Glu Pro Arg Phe Leu Asp Tyr Leu Ser Asp Leu Cys Val Ser Met Asn Lys Ser Ile Pro Val Thr Gln Glu Leu Ile Cys Lys Ala Val Leu Asn Pro Thr Asn Ala Asp Ile Leu Ile Glu Thr Lys Leu Val Leu Ser Arg Phe Glu Phe Glu Gly Val Ser Thr Gly Glu Asn Ala Leu Glu Ala Gly Glu Asp Glu Glu Glu Val Trp Leu Phe Trp Arg Asp Ser Asn Lys Glu Ile Arg Ser Lys Ser Val Arg Glu Leu Ala Gln Asp Ala Lys Glu Gly Gln Lys Glu Asp Arg Asp Val Leu Ser Tyr Tyr Arg Tyr Gln

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725
                                 730
Leu Asn Leu Phe Ala Arg Met Cys Leu Asp Arg Gln Tyr Leu Ala Ile
                             745
Asn Glu Ile Ser Gly Gln Leu Asp Val Asp Leu Ile Leu Arg Cys Met
                          760
Ser Asp Glu Asn Leu Pro Tyr Asp Leu Arg Ala Ser Phe Cys Arg Leu
                      775
Met Leu His Met His Val Asp Arg Asp Pro Gln Glu Gln Val Thr Pro
                  790
                                     795
Val Lys Tyr Ala Arg Leu Trp Ser Glu Ile Pro Ser Glu Ile Ala Ile
                                 810
Asp Asp Tyr Asp Ser Ser Gly Ala Ser Lys Asp Glu Ile Lys Glu Arg
           820
                              825
Phe Ala Gln Thr Met Glu Phe Val Glu Glu Tyr Leu Arg Asp Val Val
                          840
Cys Gln Arg Phe Pro Phe Ser Asp Lys Glu Lys Asn Lys Leu Thr Phe
                      855
Glu Val Val Asn Leu Ala Arg Asn Leu Ile Tyr Phe Gly Phe Tyr Asn
                                     875
                  870
Phe Ser Asp Leu Leu Arg Leu Thr Lys Ile Leu Leu Ala Ile Leu Asp
               885
                                 890
Cys Val His Val Thr Thr Ile Phe Pro Ile Ser Lys Met Thr Lys Gly
                              905
           900
Glu Glu Asn Lys Gly Ser Asn Val Met Arg Ser Ile His Gly Val Gly
                          920
                                            925
Glu Leu Met Thr Gln Val Val Leu Arg Gly Gly Phe Leu Pro Met
                      935
                                         940
Thr Pro Met Ala Ala Pro Glu Gly Asn Val Lys Gln Ala Glu Pro
                  950
                                     955
Glu Lys Glu Asp Ile Met Val Met Asp Thr Lys Leu Lys Ile Ile Glu
                                 970
               965
Ile Leu Gln Phe Ile Leu Asn Val Arg Leu Asp Tyr Arg Ile Ser Cys
           980
                             985
Leu Leu Cys Ile Phe Lys Arg Glu Phe Asp Glu Ser Asn Ser Gln Ser
                         1000
                                            1005
       995
Ser Glu Thr Ser Ser Gly Asn Ser Ser Gln Glu Gly Pro Ser Asn Val
                                        1020
                     1015
Pro Gly Ala Leu Asp Phe Glu His Ile Glu Glu Gln Ala Glu Gly Ile
                 1030
                                    1035
Phe Gly Gly Ser Glu Glu Asn Thr Pro Leu Asp Leu Asp Asp His Gly
                                1050
              1045
Gly Arg Thr Phe Leu Arg Val Leu Leu His Leu Thr Met His Asp Tyr
                             1065
          1060
Pro Pro Leu Val Ser Gly Ala Leu Gln Leu Leu Phe Arg His Phe Ser
                         1080
                                            1085
Gln Arg Gln Glu Val Leu Gln Ala Phe Lys Gln Val Gln Leu Leu Val
                     1095
                                        1100
Thr Ser Gln Asp Val Asp Asn Tyr Lys Gln Ile Lys Gln Asp Leu Asp
                                     1115
                  1110
Gln Leu Arg Ser Ile Val Glu Lys Ser Glu Leu Trp Val Tyr Lys Gly
              1125
                                 1130
Gln Gly Pro Asp Glu Pro Met Asp Gly Ala Ser Gly Glu Asn Glu His
                            1145
                                               1150
Lys Lys Thr Glu Glu Gly Thr Ser Lys Pro Leu Lys His Glu Ser Thr
                         1160 1165
Ser Ser Tyr Asn Tyr Arg Val Val Lys Glu Ile Leu Ile Arg Leu Ser
                     1175
                                        1180
Lys Leu Cys Val Gln Glu Ser Ala Ser Val Arg Lys Ser Arg Lys Gln
                  1190
                                     1195
Gln Gln Arg Leu Leu Arg Asn Met Gly Ala His Ala Val Val Leu Glu
                                 1210
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Leu Leu Gln Ile Pro Tyr Glu Lys Ala Glu Asp Thr Lys Met Gln Glu
                           1225
Ile Met Arg Leu Ala His Glu Phe Leu Gln Asn Phe Cys Ala Gly Asn
                        1240
                                         1245
Gln Gln Asn Gln Ala Leu Leu His Lys His Ile Asn Leu Phe Leu Asn
                    1255
                                      1260
Pro Gly Ile Leu Glu Ala Val Thr Met Gln His Ile Phe Met Asn Asn
                 1270
                                   1275
Phe Gln Leu Cys Ser Glu Ile Asn Glu Arg Val Val Gln His Phe Val
              1285
                               1290
His Cys Ile Glu Thr His Gly Arg Asn Val Gln Tyr Ile Lys Phe Leu
                            1305
Gln Thr Ile Val Lys Ala Glu Gly Lys Phe Ile Lys Lys Cys Gln Asp
                        1320
                                         1325
Met Val Met Ala Glu Leu Val Asn Ser Gly Glu Asp Val Leu Val Phe
                    1335
                                      1340
Tyr Asn Asp Arg Ala Ser Phe Gln Thr Leu Ile Gln Met Met Arg Ser
                 1350
                         1355
Glu Arg Asp Arg Met Asp Glu Asn Ser Pro Leu Phe Met Tyr His Ile
             1365
                     1370
His Leu Val Glu Leu Leu Ala Val Cys Thr Glu Gly Lys Asn Val Tyr
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          1380
                 1385
Thr Glu Ile Lys Cys Asn Ser Leu Leu Pro Leu Asp Asp Ile Val Arg
                       1400
                               1405
Val Val Thr His Glu Asp Cys Ile Pro Glu Val Lys Ile Ala Tyr Ile
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                                     1420
Asn Phe Leu Asn His Cys Tyr Val Asp Thr Glu Val Glu Met Lys Glu
       1430 1435
Ile Tyr Thr Ser Asn His Met Trp Lys Leu Phe Glu Asn Phe Leu Val
       1445 1450 1455
Asp Ile Cys Arg Ala Cys Asn Asn Thr Ser Asp Arg Lys His Ala Asp
         1460 1465 1470
Ser Val Leu Glu Lys Tyr Val Thr Glu Ile Val Met Ser Ile Val Thr
      1475 1480
                                1485
Thr Phe Phe Ser Ser Pro Phe Ser Asp Gln Ser Thr Thr Leu Gln Thr
                   1495
                                     1500
Arg Gln Pro Val Phe Val Gln Leu Leu Gln Gly Val Phe Arg Val Tyr
                1510
                                  1515
His Cys Asn Trp Leu Met Pro Ser Gln Lys Ala Ser Val Glu Ser Cys
            1525
                              1530
Ile Arg Val Leu Ser Asp Val Ala Lys Ser Arg Ala Ile Ala Ile Pro
                           1545
Val Asp Leu Asp Ser Gln Val Asn Asn Leu Phe Leu Lys Ser His Asn
                       1560
Ile Val Gln Lys Thr Ala Met Asn Trp Arg Leu Ser Ala Arg Asn Ala
                    1575
Ala Arg Arg Asp Ser Val Leu Ala Ala Ser Arg Asp Tyr Arg Asn Ile
                 1590
                                  1595
Ile Glu Arg Leu Gln Asp Ile Val Ser Ala Leu Glu Asp Arg Leu Arg
             1605
                               1610
Pro Leu Val Gln Ala Glu Leu Ser Val Leu Val Asp Val Leu His Arg
          1620
                            1625
Pro Glu Leu Leu Phe Pro Glu Asn Thr Asp Ala Arg Arg Lys Cys Glu
                        1640
Ser Gly Gly Phe Ile Cys Lys Leu Ile Lys His Thr Lys Gln Leu Leu
                    1655
                                      1660
Glu Glu Asn Glu Glu Lys Leu Cys Ile Lys Val Leu Gln Thr Leu Arg
                1670
                                  1675
Glu Met Met Thr Lys Asp Arg Gly Tyr Gly Glu Lys Gln Ile Ser Ile
             1685
                               1690
Asp Glu Leu Glu Asn Ala Glu Leu Pro Gln Pro Pro Glu Ala Glu Asn
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1	1700			1705	5				1710	ı	
Ser Thr Glu 0	Glu Leu	Glu Pro	Ser 172		Pro	Leu	Arg	Gln 1725		Glu	Asp
His Lys Arg (	Gly Glu	Ala Let		Gln	Ile	Leu	Val 1740		Arg	Tyr	Tyr
Gly Asn Ile A	Arg Pro	Ser Gly 1750	/ Arg	Arg	Glu	Glu 1755		Thr	Ser	Phe	Gly 1760
Asn Gly Pro I	Leu Ser 1769		gly	Pro	Ser 1770		Pro	Gly	Gly	Gly 1775	
	1780			1785	5				1790	)	
Glu Val Gln ( 1795			180	0				1805	;		
Asp Leu Ile M 1810		183	L5				1820	)			
Leu Leu Ala 1 1825		1830				1835	5				1840
Ser Phe Phe (	1849	5			1850	)				1855	5
	1860	_	-	1865	5				1870	)	
Thr Val Thr V			188	0	_		_	1885	;		
Glu Val Asp A		189	95				1900	)			
Thr Gln Ile 7		1910				1915	5				1920
Ala Thr Arg I	192	5			1930	)				1935	5
	1940		_	1945	5				1950	)	
Lys Asp Asp I 1955			196	0				1965	5		
Leu Arg Phe I		197	75				1980	)			
Asn Phe Leu A		1990		_		1995	5				2000
Glu Thr Leu C	2009	5			2010	)				2015	5
Leu Gly Leu I Asn Gln Thr I	2020	_		2025	5				2030	)	
2035 Glu Asn Gln A			204	0				2045	5		
2050 Ile Thr Ala I	_	20!	55				2060	)			
2065 Met Asp Leu V		2070				2075	5				2080
Ala Ile Met (	208	5	_		2090	)		_		2095	5
	2100	_	_	2109	5				2110	)	
2115	arg Fro	пуз Ст	212	0				2125	5		_
Met Gin Giv (	Glu Val	Glu ph	יונים ב								$ \pm$ $y$
Met Gln Gly ( 2130 Ala Ala Ser I		21	35				2140	כ			
2130 Ala Ala Ser I 2145	Pro Arg	21: Asn Va 2150	35 l Gly	His	Asn	Ile 2155	2140 Tyr	Ile	Leu	Ala	His 2160
2130 Ala Ala Ser I	Pro Arg Arg His 216	21: Asn Vai 2150 Asn Lys	35 l Gly s Glu	His Leu	Asn Gln 2170	Ile 2159 Thr	2140 Tyr Met	Ile Leu	Leu Lys	Ala Pro 2175	His 2160 Gly

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Ala Gln Ile Glu Ile Val Arg Leu Asp Arg Thr Met Glu Gln Ile Val
                       2200
Phe Pro Val Pro Ser Ile Cys Glu Phe Leu Thr Lys Glu Ser Lys Leu
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                                     2220
Arg Ile Tyr Tyr Thr Thr Glu Arg Asp Glu Gln Gly Ser Lys Ile Asn
                 2230
                                  2235
Asp Phe Phe Leu Arg Ser Glu Asp Leu Phe Asn Glu Met Asn Trp Gln
             2245
                              2250
Lys Lys Leu Arg Ala Gln Pro Val Leu Tyr Trp Cys Ala Arg Asn Met
          2260
                           2265
Ser Phe Trp Ser Ser Ile Ser Phe Asn Leu Ala Val Leu Met Asn Leu
                        2280
Leu Val Ala Phe Phe Tyr Pro Phe Lys Gly Val Arg Gly Gly Thr Leu
           2295
                                     2300
Glu Pro His Trp Ser Gly Leu Leu Trp Thr Ala Met Leu Ile Ser Leu
                2310
                                 2315
Ala Ile Val Ile Ala Leu Pro Lys Pro His Gly Ile Arg Ala Leu Ile
                              2330
             2325
Ala Ser Thr Ile Leu Arg Leu Ile Phe Ser Val Gly Leu Gln Pro Thr
          2340
                          2345
                                            2350
Leu Phe Leu Leu Gly Ala Phe Asn Val Cys Asn Lys Ile Ile Phe Leu
      2355
                       2360
                                       2365
Met Ser Phe Val Gly Asn Cys Gly Thr Phe Thr Arg Gly Tyr Arg Ala
           2375
                           2380
Met Val Leu Asp Val Glu Phe Leu Tyr His Leu Leu Tyr Leu Leu Ile
                2390
                                 2395
Cys Ala Met Gly Leu Phe Val His Glu Phe Phe Tyr Ser Leu Leu Leu
             2405
                              2410 2415
Phe Asp Leu Val Tyr Arg Glu Glu Thr Leu Leu Asn Val Ile Lys Ser
          2420
                          2425 2430
Val Thr Arg Asn Gly Arg Pro Ile Ile Leu Thr Ala Ala Leu Ala Leu
      2435 2440 2445
Ile Leu Val Tyr Leu Phe Ser Ile Val Gly Tyr Leu Phe Phe Lys Asp
           2455 2460
Asp Phe Ile Leu Glu Val Asp Arg Leu Pro Asn Glu Thr Ala Gly Pro
                2470
                                 2475
Glu Thr Gly Glu Ser Leu Ala Asn Asp Phe Leu Tyr Ser Asp Val Cys
             2485
                             2490
Arg Val Glu Thr Gly Glu Asn Cys Thr Ser Pro Ala Pro Lys Glu Glu
          2500
                          2505
Leu Leu Pro Val Glu Glu Thr Glu Gln Asp Lys Glu His Thr Cys Glu
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Thr Leu Leu Met Cys Ile Val Thr Val Leu Ser His Gly Leu Arg Ser
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Gly Gly Val Gly Asp Val Leu Arg Lys Pro Ser Lys Glu Glu Pro
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                                 2555
Leu Phe Ala Ala Arg Val Ile Tyr Asp Leu Leu Phe Phe Met Val
             2565
                              2570
Ile Ile Ile Val Leu Asn Leu Ile Phe Gly Val Ile Ile Asp Thr Phe
          2580
                           2585
Ala Asp Leu Arg Ser Glu Lys Gln Lys Lys Glu Glu Ile Leu Lys Thr
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Thr Cys Phe Ile Cys Gly Leu Glu Arg Asp Lys Phe Asp Asn Lys Thr
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                                     2620
Val Thr Phe Glu Glu His Ile Lys Glu Glu His Asn Met Trp His Tyr
                2630
                                 2635
Leu Cys Phe Ile Val Leu Val Lys Val Lys Asp Ser Thr Glu Tyr Thr
             2645
                              2650
Gly Pro Glu Ser Tyr Val Ala Glu Met Ile Arg Glu Arg Asn Leu Asp
          2660 2665
                                           2670
Trp Phe Pro Arg Met Arg Ala Met Ser Leu Val Ser Ser Asp Ser Glu
```

2675 2680 2685

Gly Glu Gln Asn Glu Leu Arg Asn Leu Gln Glu Lys Leu Glu Ser Thr
2690 2695 2700

Met Lys Leu Val Thr Asn Leu Ser Gly Gln Leu Ser Glu Leu Lys Asp
2705 2710 2715 2720

Gln Met Thr Glu Gln Arg Lys Gln Lys Gln Arg Ile Gly Leu Leu Gly
2725 2730 2735

His Pro Pro His Met Asn Val Asn Pro Gln Gln Pro Ala
2740 2745

<210> 7 <211> 2710 <212> PRT <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:/note =
 synthetic construct

<400> 7 Met Ser Asp Lys Met Ser Ser Phe Leu His Ile Gly Asp Ile Cys Ser Leu Tyr Ala Glu Gly Ser Thr Asn Gly Phe Ile Ser Thr Leu Gly Leu 25 Val Asp Asp Arg Cys Val Val Gln Pro Glu Ala Gly Asp Leu Asn Asn Pro Pro Lys Lys Phe Arg Asp Cys Leu Phe Lys Leu Cys Pro Met Asn Arg Tyr Ser Ala Gln Lys Gln Phe Trp Lys Ala Ala Lys Pro Gly Ala Asn Ser Thr Thr Asp Ala Val Leu Leu Asn Lys Leu His His Ala Ala 90 Asp Leu Glu Lys Lys Gln Asn Glu Thr Glu Asn Arg Lys Leu Leu Gly 105 Thr Val Ile Gln Tyr Gly Asn Val Ile Gln Leu Leu His Leu Lys Ser 120 Asn Lys Tyr Leu Thr Val Asn Lys Arg Leu Pro Ala Leu Leu Glu Lys 135 140 Asn Ala Met Arg Val Thr Leu Asp Glu Ala Gly Asn Glu Gly Ser Trp 150 155 Phe Tyr Ile Gln Pro Phe Tyr Lys Leu Arg Ser Ile Gly Asp Ser Val 170 Val Ile Gly Asp Lys Val Val Leu Asn Pro Val Asn Ala Gly Gln Pro 185 Leu His Ala Ser Ser His Gln Leu Val Asp Asn Pro Gly Cys Asn Glu 200 205 Val Asn Ser Val Asn Cys Asn Thr Ser Trp Lys Ile Val Leu Phe Met 215 220 Lys Trp Ser Asp Asn Lys Asp Asp Ile Leu Lys Gly Gly Asp Val Val 230 235 Arg Leu Phe His Ala Glu Gln Glu Lys Phe Leu Thr Cys Asp Glu His 245 250 Arg Lys Lys Gln His Val Phe Leu Arg Thr Thr Gly Arg Gln Ser Ala 260 265 270 Thr Ser Ala Thr Ser Ser Lys Ala Leu Trp Glu Val Glu Val Val Gln 280 285 His Asp Pro Cys Arg Gly Gly Ala Gly Tyr Trp Asn Ser Leu Phe Arg 295 300 Phe Lys His Leu Ala Thr Gly His Tyr Leu Ala Ala Glu Val Asp Pro 310 315

Asp Phe Glu Glu Cys Leu Glu Phe Gln Pro Ser Val Asp Pro Asp 325 330 Gln Asp Ala Ser Arg Ser Arg Leu Arg Asn Ala Gln Glu Lys Met Val 345 340 Tyr Ser Leu Val Ser Val Pro Glu Gly Asn Asp Ile Ser Ser Ile Phe 360 Glu Leu Asp Pro Thr Thr Leu Arg Gly Gly Asp Ser Leu Val Pro Arg 375 380 Asn Ser Tyr Val Arg Leu Arg His Leu Cys Thr Asn Thr Trp Val His 395 390 Ser Thr Asn Ile Pro Ile Asp Lys Glu Glu Glu Lys Pro Val Met Leu 410 Lys Ile Gly Thr Ser Pro Leu Lys Glu Asp Lys Glu Ala Phe Ala Ile 425 Val Pro Val Ser Pro Ala Glu Val Arg Asp Leu Asp Phe Ala Asn Asp 440 Ala Ser Lys Val Leu Gly Ser Ile Ala Gly Lys Leu Glu Lys Gly Thr 455 460 Ile Thr Gln Asn Glu Arg Arg Ser Val Thr Lys Leu Leu Glu Asp Leu 475 470 Val Tyr Phe Val Thr Gly Gly Thr Asn Ser Gly Gln Asp Val Leu Glu 485 490 Val Val Phe Ser Lys Pro Asn Arg Glu Arg Gln Lys Leu Met Arg Glu 505 500 510 Gln Asn Ile Leu Lys Gln Ile Phe Lys Leu Leu Gln Ala Pro Phe Thr 520 525 Asp Cys Gly Asp Gly Pro Met Leu Arg Leu Glu Glu Leu Gly Asp Gln 535 540 Arg His Ala Pro Phe Arg His Ile Cys Arg Leu Cys Tyr Arg Val Leu 550 555 Arg His Ser Gln Gln Asp Tyr Arg Lys Asn Gln Glu Tyr Ile Ala Lys 570 565 Gln Phe Gly Phe Met Gln Lys Gln Ile Gly Tyr Asp Val Leu Ala Glu 580 . 585 Asp Thr Ile Thr Ala Leu Leu His Asn Asn Arg Lys Leu Leu Glu Lys . 605 600 His Ile Thr Ala Ala Glu Ile Asp Thr Phe Val Ser Leu Val Arg Lys 615 i 620 Asn Arg Glu Pro Arg Phe Leu Asp Tyr Leu Ser Asp Leu Cys Val Ser 630 635 Met Asn Lys Ser Ile Pro Val Thr Gln Glu Leu Ile Cys Lys Ala Val 650 Leu Asn Pro Thr Asn Ala Asp Ile Leu Ile Glu Thr Lys Leu Val Leu 665 Ser Arg Phe Glu Phe Glu Gly Val Ser Thr Gly Glu Asn Ala Leu Glu 680 Ala Gly Glu Asp Glu Glu Glu Val Trp Leu Phe Trp Arg Asp Ser Asn 700 695 Lys Glu Ile Arg Ser Lys Ser Val Arg Glu Leu Ala Gln Asp Ala Lys 710 715 Glu Gly Gln Lys Glu Asp Arg Asp Val Leu Ser Tyr Tyr Arg Tyr Gln 725 730 Leu Asn Leu Phe Ala Arg Met Cys Leu Asp Arg Gln Tyr Leu Ala Ile 745 Asn Glu Ile Ser Gly Gln Leu Asp Val Asp Leu Ile Leu Arg Cys Met 760 Ser Asp Glu Asn Leu Pro Tyr Asp Leu Arg Ala Ser Phe Cys Arg Leu 775 780 Met Leu His Met His Val Asp Arg Asp Pro Gln Glu Gln Val Thr Pro 790 795 Val Lys Tyr Ala Arg Leu Trp Ser Glu Ile Pro Ser Glu Ile Ala Ile

Asp Asp Tyr Asp Ser Ser Gly Ala Ser Lys Asp Glu Ile Lys Glu Arg	7 7			805					810			•		815	
Phe Ala Gln Thr Met Glu Phe Val Glu Glu Tyr Leu Arg Asp Val Val 815	Asp As	Tyr	_		Ser	Gly	Ala			Asp	Glu	Ile			Arg
Second   S	Phe Ala		Thr	Met	Glu	Phe			Glu	Tyr	Leu		Asp	Val	Val
Sept	_	_	Phe	Pro	Phe		Asp	Lys	Glu	Lys		Lys	Leu	Thr	Phe
Second   S		l Val	Asn	Leu		Arg	Asn	Leu	Ile		Phe	Gly	Phe	Tyr	
Glu Glu Asn Lys Gly Ser Asn Val Met Arg Ser Ile His Gly Val Gly 915   920   925   925   926   925   926   926   925   926				885					890					895	
915 920 925 926 926 927 930 930 930 935 930 935 936 936 936 936 936 936 936 936 936 936	_		900					905					910		
930 935 940 935 940 940 955 960 960 945 950 960 945 950 960 955 960 960 965 960 965 960 965 960 965 960 965 960 965 960 965 960 965 965 965 960 965 965 965 965 965 965 965 965 965 965	Glu Gl		Lys	Gly	Ser	Asn		Met	Arg	Ser	Ile		Gly	Val	Gly
950	93	)				935					940				
1		) Met	Ala	Ala		Pro	Glu	Gly	Asn		Lys	Gln	Ala	Glu	
Ser   Ser	Glu Ly	s Glu	Asp		Met	Val	Met	Asp		Lys	Leu	Lys	Ile		Glu
Ser Glu Thr Ser Ser Gly Asn Ser Ser Gln Glu Gly Pro Ser Asn Val  1010 1015 1020  Pro Gly Ala Leu Asp Phe Glu His Ile Glu Glu Gln Ala Glu Gly Ile  1025 1030 1035 1040  Phe Gly Gly Ser Glu Glu Asn Thr Pro Leu Asp Leu Asp Asp His Gly  1045 1055 1050 1055  Gly Arg Thr Phe Leu Arg Val Leu Leu His Leu Thr Met His Asp Tyr  1060 1065 1070  Pro Pro Leu Val Ser Gly Ala Leu Gln Leu Leu His Leu Thr Met His Asp Tyr  1060 1085 1085  Gln Arg Gln Glu Val Leu Gln Ala Phe Lys Gln Val Gln Leu Leu Val  1095 1100  Thr Ser Gln Asp Val Asp Asn Tyr Lys Gln Ile Lys Gln Asp Leu Asp  1095 1110 1115  Gln Leu Arg Ser Ile Val Glu Lys Ser Glu Leu Trp Val Tyr Lys Gly  1125 1130 1135  Gln Gly Pro Asp Glu Pro Met Asp Gly Ala Ser Gly Ala Ser Gly Ala Ser Gly Ala Ser Thr  1155 1140 1155  Lys Lys Thr Glu Gly Gly Thr Ser Lys Pro Leu Lys His Glu Ser Thr  1155  Ser Ser Tyr Asn Tyr Arg Val Val Lys Glu Ile Leu Ile Arg Leu Ser  1170 1175 1180  Clys Leu Cys Val Gln Glu Ser Ala Ser Val Arg Lys Ser Arg Lys Gln  1185 1190 1195 1220  Gln Gln Arg Leu Leu Arg Asn Met Gly Ala His Ala Val Val Leu Glu  1220 1225 1230  Ile Met Arg Leu Ala His Glu Lys Ala Glu Asn Phe Cys Ala Gly Asn  1235 1245  Gln Gln Asn Gln Ala Leu Leu His Lys His Ile Asn Leu Phe Leu Asn  1250 1255 1240  Pro Gly Ile Leu Glu Ala Leu Leu His Lys His Ile Asn Leu Phe Leu Asn  1250 1255 1260  Pro Gly Ile Leu Glu Ala Val Thr Met Gln His Ile Phe Met Asn Asn  1250 1250 1255 1260  Pro Gly Ile Leu Glu Ala Val Thr Met Gln His Ile Phe Met Asn Asn  1250 1270 1275 1280	Ile Le	ı Gln		Ile	Leu	Asn	Val		Leu	Asp	Tyr	Arg		Ser	Cys
1010		995			_	_	1000	)				1005	5		
1025	10	LO				1015	5				1020	)			
Gly Arg Thr Phe Leu Arg Val Leu Leu His Leu Thr Met His Asp Tyr 1060		/ Ala	Leu	Asp			His	Ile	Glu			Ala	Glu	Gly	
Pro Pro Leu Val Ser Gly Ala Leu Gln Leu Leu Phe Arg His Phe Ser 1075	Phe Gl	y Gly	Ser			Asn	Thr	Pro			Leu	Asp	Asp		
Gln Arg Gln Glu Val Leu Gln Ala Phe Lys Gln Val Gln Leu Leu Val 1090	Gly Ar	g Thr			Arg	Val	Leu			Leu	Thr	Met			Tyr
Thr Ser Gln Asp Val Asp Asn Tyr Lys Gln Ile Lys Gln Asp Leu Asp 1105			1000	•				100	,				10,	,	
1105		107	Val 5	Ser			1080	Gln	Leu			1085	His	Phe	
Simple   S	Gln Ar	107. g Gln 90	Val 5 Glu	Ser Val	Leu	Gln 1095	1080 Ala 5	Gln ) Phe	Leu Lys	Gln	Val	1085 Gln )	His Leu	Phe Leu	Val
Lys Lys Thr Glu Glu Gly Thr Ser Lys Pro Leu Lys His Glu Ser Thr 1155	Gln Ard 10 Thr Se	107. g Gln 90	Val 5 Glu	Ser Val	Leu Asp	Gln 1095 Asn	1080 Ala 5	Gln ) Phe	Leu Lys	Gln Ile	Val 1100 Lys	1085 Gln )	His Leu	Phe Leu	Val Asp
Ser Ser Tyr Asn Tyr Arg Val Val Lys Glu Ile Leu Ile Arg Leu Ser 1170	Gln Are 10 Thr Se 1105	107. g Gln 90 r Gln	Val 5 Glu Asp	Ser Val Val Ile	Leu Asp 1110 Val	Gln 1095 Asn	1080 Ala Tyr	Gln ) Phe Lys	Leu Lys Gln Glu	Gln Ile 1119 Leu	Val 1100 Lys	1085 Gln O Gln	His Leu Asp	Phe Leu Leu Lys	Val Asp 1120 Gly
1170	Gln Ard 10 Thr Se 1105 Gln Le	107. g Gln 90 r Gln ı Arg	Val 5 Glu Asp Ser Asp	Val Val Ile 1125 Glu	Leu Asp 1110 Val	Gln 1095 Asn ) Glu	1080 Ala 5 Tyr Lys	Gln Phe Lys Ser Gly	Leu Lys Gln Glu 1130 Ala	Gln Ile 1115 Leu	Val 1100 Lys Trp	1085 Gln ) Gln Val	His Leu Asp Tyr	Phe Leu Leu Lys 1139 Glu	Val Asp 1120 Gly
Lys Leu Cys Val Gln Glu Ser Ala Ser Val Arg Lys Ser Arg Lys Gln 1185	Gln Arc 10 Thr Se 1105 Gln Le	107 g Gln 90 r Gln 1 Arg y Pro	Val  Glu  Asp  Ser  Asp  1140 Glu	Val Val Ile 1129 Glu	Leu Asp 1110 Val Pro	Gln 1095 Asn ) Glu Met	1080 Ala Tyr Lys Asp	Gln ) Phe Lys Ser Gly 1145 Lys	Leu Lys Gln Glu 1130 Ala	Gln Ile 1115 Leu Ser	Val 1100 Lys Trp Gly	Gln Gln Gln Val Glu	His Leu Asp Tyr Asn 1150	Phe Leu Leu Lys 1139 Glu	Val Asp 1120 Gly His
1185	Gln Ard 10 Thr Se 1105 Gln Le Gln Gl Lys Ly Ser Se	107 g Gln e Gln l Arg y Pro s Thr 115 r Tyr	Val 5 Glu Asp Ser Asp 1140 Glu 5	Val Val Ile 1129 Glu O Glu	Asp 1110 Val Fro	Gln 1095 Asn ) Glu Met Thr	1080 Ala Tyr Lys Asp Ser 1160 Val	Gln Phe Lys Ser Gly 1145 Lys	Leu Lys Gln Glu 1130 Ala Pro	Gln Ile 1119 Leu ) Ser Leu	Val 1100 Lys Trp Gly Lys	Olu His 1165	His Leu Asp Tyr Asn 1150 Glu	Phe Leu Lys 113! Glu Ser	Val Asp 1120 Gly His
Leu Leu Gln Ile Pro Tyr Glu Lys Ala Glu Asp Thr Lys Met Gln Glu $1220$	Gln Ard 10 Thr Se 1105 Gln Le Gln Gl Lys Ly Ser Se 11	107 g Gln e Gln l Arg y Pro s Thr 115 r Tyr	Val 5 Glu Asp Ser Asp 1140 Glu 5 Asn	Val Val Ile 1129 Glu O Glu Tyr	Asp 1110 Val Pro Gly Arg	Gln 1095 Asn Glu Met Thr Val 1175	1080 Ala Tyr Lys Asp Ser 1160 Val	Gln Phe Lys Ser Gly 1145 Lys Lys	Leu Lys Gln Glu 1130 Ala Pro	Gln Ile 1119 Leu Ser Leu Ile	Val 1100 Lys Trp Gly Lys Leu 1180	Gln  Gln  Val  Glu  His  1165	His Leu Asp Tyr Asn 1150 Glu Arg	Leu Lys 113! Glu Ser Leu	Val Asp 1120 Gly His Thr
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Gln Ard 10 Thr Se 1105 Gln Le Gln Gl Lys Ly Ser Se 11 Lys Le	107 g Gln e Gln l Arg y Pro s Thr 115 r Tyr	Val 5 Glu Asp Ser Asp 1140 Glu 5 Asn	Val Val Ile 1129 Glu O Glu Tyr	Asp 1110 Val Pro Gly Arg	Gln 1095 Asn ) Glu Met Thr Val 1175 Ser	1080 Ala Tyr Lys Asp Ser 1160 Val	Gln Phe Lys Ser Gly 1145 Lys Lys	Leu Lys Gln Glu 1130 Ala Pro	Gln Ile 1115 Leu Ser Leu Ile Arg	Val 1100 Lys Trp Gly Lys Leu 1180 Lys	Gln  Gln  Val  Glu  His  1165	His Leu Asp Tyr Asn 1150 Glu Arg	Leu Lys 113! Glu Ser Leu	Val Asp 1120 Gly His Thr Ser
Gln Gln Asn Gln Ala Leu Leu His Lys His Ile Asn Leu Phe Leu Asn $1250$	Gln Ard 10 Thr Se 1105 Gln Le Gln Gl Lys Ly Ser Se 11 Lys Le 1185	107 g Gln e Gln l Arg y Pro s Thr 115 r Tyr 70 l Cys	Val 5 Glu Asp Ser Asp 1140 Glu 5 Asn Val	Val Val Ile 1125 Glu Glu Tyr Gln Leu	Asp 1110 Val Pro Gly Arg Glu 1190 Arg	Gln 1095 Asn ) Glu Met Thr Val 1175 Ser	1080 Ala Tyr Lys Asp Ser 1160 Val	Gln Phe Lys Ser Gly 1145 Lys Lys Ser	Leu Lys Gln Glu 1130 Ala Fro Glu Val	Gln Ile 1115 Leu Ser Leu Ile Arg 1199 His	Val 1100 Lys Trp Gly Lys Leu 1180 Lys	1085 Gln Gln Val Glu His 1165 Ile	His Leu Asp Tyr Asn 1150 Glu Arg	Phe Leu Lys 1135 Glu Ser Leu Lys Lys	Val Asp 1120 Gly His Thr Ser Gln 1200 Glu
1250       1255       1260         Pro Gly Ile Leu Glu Ala Val Thr Met Gln His Ile Phe Met Asn Asn       1265       1270       1275       1280         Phe Gln Leu Cys Ser Glu Ile Asn Glu Arg Val Val Gln His Phe Val	Gln Ard 10 Thr Se 1105 Gln Le Gln Gl Lys Ly Ser Se 11 Lys Le 1185 Gln Gl	107 g Gln e Gln l Arg y Pro s Thr 115 r Tyr 70 l Cys	Val  Glu  Asp  Ser  Asp  1140  Glu  Nan  Val  Leu  Ile  1220	Val Val Ile 1125 Glu Glu Tyr Gln Leu 1205 Pro	Asp 1110 Val Pro Gly Arg Glu 1190 Arg	Gln 1095 Asn ) Glu Met Thr Val 1175 Ser ) Asn	1080 Ala Tyr Lys Asp Ser 1160 Val Ala Met Lys	Gln Phe Lys Ser Gly 1145 Lys Lys Ser Gly Ala 1225	Leu Lys Gln Glu 1130 Ala Fro Glu Val Ala 1210 Glu 5	Gln Ile 1115 Leu Ser Leu Ile Arg 1199 His	Val 1100 Lys Trp Gly Lys Leu 1180 Lys Ala	1085 Gln Gln Val Glu His 1165 Ile Ser Val Lys	His Leu Asp Tyr Asn 1150 Glu Arg Arg Val Met	Leu Lys 1135 Glu Ser Leu Lys Leu 1215 Gln	Asp 1120 Gly His Thr Ser Gln 1200 Glu 5
1265 1270 1275 1280 Phe Gln Leu Cys Ser Glu Ile Asn Glu Arg Val Val Gln His Phe Val	Gln Ard 10 Thr Se 1105 Gln Le Gln Gl Lys Ly Ser Se 11 Lys Le 1185 Gln Gl	107 g Gln e Gln i Arg y Pro s Thr 115 r Tyr 70 i Cys n Arg	Val  Glu  Asp  Ser  Asp 1140 Glu  Asn  Val  Leu  Ile 1220 Leu	Val Val Ile 1125 Glu Glu Tyr Gln Leu 1205 Pro	Asp 1110 Val Pro Gly Arg Glu 1190 Arg	Gln 1095 Asn ) Glu Met Thr Val 1175 Ser ) Asn	1080 Ala Tyr Lys Asp Ser 1160 Val Ala Met Lys	Gln Phe Lys Ser Gly 1145 Lys Lys Ser Gly Ala 1225 Leu	Leu Lys Gln Glu 1130 Ala Fro Glu Val Ala 1210 Glu 5	Gln Ile 1115 Leu Ser Leu Ile Arg 1199 His	Val 1100 Lys Trp Gly Lys Leu 1180 Lys Ala	1085 Gln Gln Val Glu His 1165 Ile Ser Val Lys Cys	His Leu Asp Tyr Asn 1150 Glu Arg Arg Val Met 1230 Ala	Leu Lys 1135 Glu Ser Leu Lys Leu 1215 Gln	Val Asp 1120 Gly His Thr Ser Gln 1200 Glu Glu Glu
Phe Gln Leu Cys Ser Glu Ile Asn Glu Arg Val Val Gln His Phe Val	Gln Ard 10 Thr Se 1105 Gln Le Gln Gl Lys Ly Ser Se 11 Lys Le 1185 Gln Gl Leu Le Ile Me Gln Gl 12	107 g Gln e Gln i Arg y Pro s Thr 115 r Tyr 70 i Cys i Arg i Gln t Arg 123 i Asn	Val  Glu  Asp  Ser  Asp 1140  Glu  Asn  Val  Leu  Ile 1220  Leu  Gln	Val Val Ile 1129 Glu Tyr Gln Leu 1209 Pro Ala Ala	Asp 1110 Val Pro Gly Arg Glu 1190 Arg Tyr His	Gln 1095 Asn Glu Met Thr Val 1175 Ser Asn Glu Glu Leu 1255	1086 Ala Tyr Lys Asp Ser 1166 Val Ala Met Lys Phe 1246 His	Gln Phe Lys Ser Gly 1145 Lys Lys Ser Gly Lys Lys Lys	Leu Lys Gln Glu 1130 Ala Pro Glu Val Ala 1210 Glu Gln His	Gln Ile 1119 Leu Ser Leu Ile Arg 1199 His Asp Asp	Val 1100 Lys Trp Gly Lys Leu 1180 Lys Ala Thr	Gln  Gln  Val  Glu  His  1165  Ile  Ser  Val  Lys  Cys  1245  Leu  O	His Leu Asp Tyr Asn 1150 Glu Arg Arg Val Met 1230 Ala Phe	Leu Lys 1139 Glu Ser Leu Lys Leu 1219 Gln Gly Leu	Val Asp 1120 Gly His Thr Ser Gln 1200 Glu Glu Asn Asn
	Gln Ard 10 Thr Se 1105 Gln Le Gln Gl Lys Ly Ser Se 11 Lys Le 1185 Gln Gl Leu Le Ile Me Gln Gl 12 Pro Gl	107 g Gln e Gln i Arg y Pro s Thr 115 r Tyr 70 i Cys i Arg i Gln t Arg 123 i Asn	Val  Glu  Asp  Ser  Asp 1140  Glu  Asn  Val  Leu  Ile 1220  Leu  Gln	Val Val Ile 1129 Glu Tyr Gln Leu 1209 Pro Ala Ala	Asp 1110 Val Pro Gly Arg Glu 1190 Arg Tyr His Leu	Gln 1095 Asn Glu Met Thr Val 1175 Ser Asn Glu Glu Leu 1255 Val	1086 Ala Tyr Lys Asp Ser 1166 Val Ala Met Lys Phe 1246 His	Gln Phe Lys Ser Gly 1145 Lys Lys Ser Gly Lys Lys Lys	Leu Lys Gln Glu 1130 Ala Pro Glu Val Ala 1210 Glu Gln His	Gln Ile 1119 Leu Ser Leu Ile Arg 1199 His Asp Asp Asn Ile His	Val 1100 Lys Trp Gly Lys Leu 1180 Lys Ala Thr Phe Asn 1260 Ile	Gln  Gln  Val  Glu  His  1165  Ile  Ser  Val  Lys  Cys  1245  Leu  O	His Leu Asp Tyr Asn 1150 Glu Arg Arg Val Met 1230 Ala Phe	Leu Lys 1139 Glu Ser Leu Lys Leu 1219 Gln Gly Leu	Asp 1120 Gly His Thr Ser Gln 1200 Glu SGlu Asn Asn

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His Cys Ile Glu Thr His Gly Arg Asn Val Gln Tyr Ile Lys Phe Leu
         1300
                         1305
Gln Thr Ile Val Lys Ala Glu Gly Lys Phe Ile Lys Lys Cys Gln Asp
              1320
                             1325
      1315
Met Val Met Ala Glu Leu Val Asn Ser Gly Glu Asp Val Leu Val Phe
          1335
                                  1340
Tyr Asn Asp Arq Ala Ser Phe Gln Thr Leu Ile Gln Met Met Arg Ser
     1350
                      1355
Glu Arq Asp Arq Met Asp Glu Asn Ser Pro Leu Phe Met Tyr His Ile
                   1370
His Leu Val Glu Leu Leu Ala Val Cys Thr Glu Gly Lys Asn Val Tyr
               1385
Thr Glu Ile Lys Cys Asn Ser Leu Leu Pro Leu Asp Asp Ile Val Arg
     1395 1400
Val Val Thr His Glu Asp Cys Ile Pro Glu Val Lys Ile Ala Tyr Ile
         1415
                                  1420
Asn Phe Leu Asn His Cys Tyr Val Asp Thr Glu Val Glu Met Lys Glu
                              1435
     1430
Ile Tyr Thr Ser Asn His Met Trp Lys Leu Phe Glu Asn Phe Leu Val
           1445 1450
Asp Ile Cys Arg Ala Cys Asn Asn Thr Ser Asp Arg Lys His Ala Asp
         1460 1465
Ser Val Leu Glu Lys Tyr Val Thr Glu Ile Val Met Ser Ile Val Thr
     1475
            1480
                                     1485
Thr Phe Phe Ser Ser Pro Phe Ser Asp Gln Ser Thr Thr Leu Gln Thr
  1490 1495
                                  1500
Arg Gln Pro Val Phe Val Gln Leu Leu Gln Gly Val Phe Arg Val Tyr
1505 1510 1515
His Cys Asn Trp Leu Met Pro Ser Gln Lys Ala Ser Val Glu Ser Cys
                  1530
           1525
Ile Arg Val Leu Ser Asp Val Ala Lys Ser Arg Ala Ile Ala Ile Pro
        1540 . 1545
Val Asp Leu Asp Ser Gln Val Asn Asn Leu Phe Leu Lys Ser His Asn
     1555 1560 1565
Ile Val Gln Lys Thr Ala Met Asn Trp Arg Leu Ser Ala Arg Asn Ala
                                  1580
   1570 1575
Ala Arq Arq Asp Ser Val Leu Ala Ala Ser Arg Asp Tyr Arg Asn Ile
1585 1590 1595
Ile Glu Arg Leu Gln Asp Ile Val Ser Ala Leu Glu Asp Arg Leu Arg
          1605 1610
Pro Leu Val Gln Ala Glu Leu Ser Val Leu Val Asp Val Leu His Arg
         1620 1625
Pro Glu Leu Leu Phe Pro Glu Asn Thr Asp Ala Arg Arg Lys Cys Glu
     1635 1640
Ser Gly Gly Phe Ile Cys Lys Leu Ile Lys His Thr Lys Gln Leu Leu
        1655
                                  1660
Glu Glu Asn Glu Glu Lys Leu Cys Ile Lys Val Leu Gln Thr Leu Arg
                               1675
    1670
Glu Met Met Thr Lys Asp Arg Gly Tyr Gly Glu Lys Gly Glu Ala Leu
            1685
                            1690
Arg Gln Ile Leu Val Asn Arg Tyr Tyr Gly Asn Ile Arg Pro Ser Gly
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                         1705
Arq Arq Glu Asp Leu Thr Ser Phe Gly Asn Gly Pro Leu Ser Pro Gly
                      1720
   1715
Gly Pro Ser Lys Pro Gly Gly Gly Gly Gly Pro Gly Ser Gly Ser
        1735
                                   1740
Thr Ser Arg Gly Glu Met Ser Leu Ala Glu Val Gln Cys His Leu Asp
                             1755
      1750
Lys Glu Gly Ala Ser Asn Leu Val Ile Asp Leu Ile Met Asn Ala Ser
            1765 1770 1775
Ser Asp Arg Val Phe His Glu Ser Ile Leu Leu Ala Ile Ala Leu Leu
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	1780		1	785			1790	
Glu Gly Gly 1795		Thr Ile	Gln H 1800	is Ser	Phe Phe	Cys 1805	-	Thr
Glu Asp Lys 1810	Lys Ser	Glu Lys 1819		he Lys	Val Phe		Asp Arg	g Met
Lys Val Ala 1825		Glu Ile 1830	Lys A	la Thr	Val Thr 1835	Val	Asn Thi	Ser 1840
Asp Leu Gly	Asn Lys 1845	_	Asp A	sp Glu 1850		Arg	Asp Ala	
Ser Arg Lys	Lys Ala 1860	Lys Glu		hr Thr	Gln Ile	Thr	Glu Glu 1870	ı Val
Arg Asp Gln 1875		Glu Ala	Ser A 1880	la Ala	Thr Arg	Lys 1885		e Thr
Thr Phe Arg 1890	Arg Glu	Ala Asp 1895		asp Asp	His Tyr		Ser Gly	/ Glu
Gly Thr Gln 1905	Ala Thr	Thr Asp 1910	Lys A	la Lys	Asp Asp 1915	Leu	Glu Met	Ser 1920
Ala Val Ile	Thr Ile 1925		Pro I	le Leu 1930	_	Leu	Gln Let 193	
Cys Glu Asn	His Asn 1940	Arg Asp		ln Asn .945	Phe Lev	Arg	Cys Glr 1950	n Asn
Asn Lys Thr 1955	-	Asn Leu	Val C 1960	Cys Glu	Thr Lev	Gln 1965		ı Asp
Cys Ile Cys 1970	Gly Ser	Thr Thr 1975		Sly Leu			Gly Le	ı Tyr
Ile Asn Glu 1985	-	1990			1995			2000
Thr Glu Tyr	Cys Gln 2005		Cys H	is Glu 2010		Asn	Cys Ile	
Thr His Glu	2020	_	2	2025			2030	
Asp Ile Asn 2035		Gly Lys	Lys A 2040	Arg Met	Asp Let	Val 2045		ı Leu
Lys Asn Asn 2050		205	5		206	0		
Asp Ser Glu 2065		2070			2075			2080
Leu Val Glu	2085	5		209	0		20	95
Glu Asp Gly	2100		2	2105			2110	
Gly His Asn 2115		Ile Leu	Ala H 2120	His Gln	Leu Ala	Arg 2125		n Lys
Glu Leu Gln 2130	Thr Met	Leu Lys 213		ly Gly	Gln Val		Gly As	p Glu
Ala Leu Glu 2145	Phe Tyr			Thr Ala			Ile Va	l Arg 2160
Leu Asp Arg	Thr Met	Glu Gln	Ile V	al Phe 217		Pro	Ser Il	_
Glu Phe Leu			_			Tyr		
Arg Asp Glu 2195	Gln Gly	Ser Lys	Ile A 2200	Asn Asp	Phe Phe	Leu 2209		r Glu
Asp Leu Phe 2210		Met Asn 221	Trp G	3ln Lys	Lys Let	_	Ala Gl	n Pro
Val Leu Tyr	Trp Cys	Ala Arg		Met Ser	Phe Tr		Ser Il	
2225 Phe Asn Leu	Ala Val		Asn I	Leu Leu 225		a Phe	Phe Ty	
Phe Lys Gly						s Trp		

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Leu Trp Thr Ala Met Leu Ile Ser Leu Ala Ile Val Ile Ala Leu Pro
 2275 2280
Lys Pro His Gly Ile Arg Ala Leu Ile Ala Ser Thr Ile Leu Arg Leu
  2290 2295 2300
Ile Phe Ser Val Gly Leu Gln Pro Thr Leu Phe Leu Leu Gly Ala Phe
     2310 2315
Asn Val Cys Asn Lys Ile Ile Phe Leu Met Ser Phe Val Gly Asn Cys
                           2330 2335
            2325
Gly Thr Phe Thr Arg Gly Tyr Arg Ala Met Val Leu Asp Val Glu Phe
                       2345
Leu Tyr His Leu Leu Tyr Leu Leu Ile Cys Ala Met Gly Leu Phe Val
                    2360
                                    2365
His Glu Phe Phe Tyr Ser Leu Leu Phe Asp Leu Val Tyr Arg Glu
                  2375
                                 2380
Glu Thr Leu Leu Asn Val Ile Lys Ser Val Thr Arg Asn Gly Arg Pro
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                              2395
Ile Ile Leu Thr Ala Ala Leu Ala Leu Ile Leu Val Tyr Leu Phe Ser
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                           2410
Ile Val Gly Tyr Leu Phe Phe Lys Asp Phe Ile Leu Glu Val Asp
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Arg Leu Pro Asn Glu Thr Ala Gly Pro Glu Thr Gly Glu Ser Leu Ala
                     2440
                                    2445
Asn Asp Phe Leu Tyr Ser Asp Val Cys Arg Val Glu Thr Gly Glu Asn
                  2455
Cys Thr Ser Pro Ala Pro Lys Glu Glu Leu Leu Pro Val Glu Glu Thr
                              2475
               2470
Glu Gln Asp Lys Glu His Thr Cys Glu Thr Leu Leu Met Cys Ile Val
                           2490
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Thr Val Leu Ser His Gly Leu Arg Ser Gly Gly Val Gly Asp Val
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                        2505
Leu Arg Lys Pro Ser Lys Glu Glu Pro Leu Phe Ala Ala Arg Val Ile
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Tyr Asp Leu Leu Phe Phe Met Val Ile Ile Val Leu Asn Leu
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Glu Arg Asp Lys Phe Asp Asn Lys Thr Val Thr Phe Glu Glu His Ile
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Lys Glu Glu His Asn Met Trp His Tyr Leu Cys Phe Ile Val Leu Val
                    2600 2605
Lys Val Lys Asp Ser Thr Glu Tyr Thr Gly Pro Glu Ser Tyr Val Ala
                                 2620
        2615
Glu Met Ile Arg Glu Arg Asn Leu Asp Trp Phe Pro Arg Met Arg Ala
              2630 2635
Met Ser Leu Val Ser Ser Asp Ser Glu Gly Glu Gln Asn Glu Leu Arg
            2645
                           2650 2655
Asn Leu Gln Glu Lys Leu Glu Ser Thr Met Lys Leu Val Thr Asn Leu
         2660 2665 2670
Ser Gly Gln Leu Ser Glu Leu Lys Asp Gln Met Thr Glu Gln Arg Lys
     2675 2680 2685
Gln Lys Gln Arg Ile Gly Leu Leu Gly His Pro Pro His Met Asn Val
                                  2700
Asn Pro Gln Gln Pro Ala
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<210> 8 <211> 2749

<212> PRT

<213> Artificial Sequence

<220>

<400> 8 Met Ser Asp Lys Met Ser Ser Phe Leu His Ile Gly Asp Ile Cys Ser 10 Leu Tyr Ala Glu Gly Ser Thr Asn Gly Phe Ile Ser Thr Leu Gly Leu 25 Val Asp Asp Arg Cys Val Val Gln Pro Glu Ala Gly Asp Leu Asn Asn Pro Pro Lys Lys Phe Arg Asp Cys Leu Phe Lys Leu Cys Pro Met Asn Arg Tyr Ser Ala Gln Lys Gln Phe Trp Lys Ala Ala Lys Pro Gly Ala Asn Ser Thr Thr Asp Ala Val Leu Leu Asn Lys Leu His His Ala Ala Asp Leu Glu Lys Lys Gln Asn Glu Thr Glu Asn Arg Lys Leu Leu Gly 105 Thr Val Ile Gln Tyr Gly Asn Val Ile Gln Leu Leu His Leu Lys Ser 120 Asn Lys Tyr Leu Thr Val Asn Lys Arg Leu Pro Ala Leu Leu Glu Lys 135 Asn Ala Met Arg Val Thr Leu Asp Glu Ala Gly Asn Glu Gly Ser Trp 150 155 Phe Tyr Ile Gln Pro Phe Tyr Lys Leu Arg Ser Ile Gly Asp Ser Val 170 165 Val Ile Gly Asp Lys Val Val Leu Asn Pro Val Asn Ala Gly Gln Pro 185 Leu His Ala Ser Ser His Gln Leu Val Asp Asn Pro Gly Cys Asn Glu 200 Val Asn Ser Val Asn Cys Asn Thr Ser Trp Lys Ile Val Leu Phe Met 220 215 Lys Trp Ser Asp Asp Lys Asp Asp Ile Leu Lys Gly Gly Asp Val Val 230 235 Arg Leu Phe His Ala Glu Gln Glu Lys Phe Leu Thr Cys Asp Glu His 250 245 Arg Lys Lys Gln His Val Phe Leu Arg Thr Thr Gly Arg Gln Ser Ala 265 Thr Ser Ala Thr Ser Ser Lys Ala Leu Trp Glu Val Glu Val Val Gln 280 His Asp Pro Cys Arg Gly Gly Ala Gly Tyr Trp Asn Ser Leu Phe Arg 295 Phe Lys His Leu Ala Thr Gly His Tyr Leu Ala Ala Glu Val Asp Pro 310 315 Asp Phe Glu Glu Cys Leu Glu Phe Gln Pro Ser Val Asp Pro Asp 325 330 Gln Asp Ala Ser Arg Ser Arg Leu Arg Asn Ala Gln Glu Lys Met Val 345 Tyr Ser Leu Val Ser Val Pro Glu Gly Asn Asp Ile Ser Ser Ile Phe 360 Glu Leu Asp Pro Thr Thr Leu Arg Gly Gly Asp Ser Leu Val Pro Arg 375 380 Asn Ser Tyr Val Arg Leu Arg His Leu Cys Thr Asn Thr Trp Val His 390 395 Ser Thr Asn Ile Pro Ile Asp Lys Glu Glu Glu Lys Pro Val Met Leu 410 Lys Ile Gly Thr Ser Pro Leu Lys Glu Asp Lys Glu Ala Phe Ala Ile

			420					425					430		
Val	Pro	Val 435		Pro	Ala	Glu	Val 440	Arg	Asp	Leu	Asp	Phe 445	Ala	Asn	Asp
Ala	Ser 450	Lys	Val	Leu	Gly	Ser 455	Ile	Ala	Gly	Lys	Leu 460	Glu	Lys	Gly	Thr
Ile 465	Thr	Gln	Asn	Glu	Arg 470	Arg	Ser	Val	Thr	Lys 475	Leu	Leu	Glu	Asp	Leu 480
Val	Tyr	Phe	Val	Thr 485	Gly	Gly	Thr	Asn	Ser 490	Gly	Gln	Asp	Val	Leu 495	Glu
Val	Val	Phe	Ser 500	Lys	Pro	Asn	Arg	Glu 505	Arg	Gln	Lys	Leu	Met 510	Arg	Glu
		515		-			520	_				525	Pro		
	530					535					540		Gly		
545					550					555			Arg		560
				565					570				Ile	575	
		_	580			_		585	_				Leu 590		
_		595					600					605	Leu		
	610					615					620		Val		
625	_				630					635			Cys		640
				645					650				Leu	655	
			660					665					670 Ala		
		675					680					685	Asp		
	690		_			695					700				Lys
705					710					715			Arg		720
				725					730				Leu	735	
-			740					745					750 Arg		
		755					760					765			Leu
	770					775					780				Pro
785					790		_	_		795			Ile		800
				805					810				Lys	815	
			820					825					830		Val
		835					840					845			Phe
_	850					855		_			860				Asn
865					870					875					880 Asp
				885					890					895	
cys	val	итг	900	III	TIIL	тте	File	905	тте	ser	пÀв	Mec	910	пув	Gly

```
Glu Glu Asn Lys Gly Ser Asn Val Met Arg Ser Ile His Gly Val Gly
                       920
Glu Leu Met Thr Gln Val Val Leu Arg Gly Gly Gly Phe Leu Pro Met
                    935
                                     940
Thr Pro Met Ala Ala Ala Pro Glu Gly Asn Val Lys Gln Ala Glu Pro
                 950
Glu Lys Glu Asp Ile Met Val Met Asp Thr Lys Leu Lys Ile Ile Glu
             965
                              970
Ile Leu Gln Phe Ile Leu Asn Val Arg Leu Asp Tyr Arg Ile Ser Cys
         980
                           985
Leu Leu Cys Ile Phe Lys Arg Glu Phe Asp Glu Ser Asn Ser Gln Ser
                       1000
                                        1005
      995
Ser Glu Thr Ser Ser Gly Asn Ser Ser Gln Glu Gly Pro Ser Asn Val
                   1015
                                     1020
Pro Gly Ala Leu Asp Phe Glu His Ile Glu Glu Gln Ala Glu Gly Ile
               1030
                       1035
Phe Gly Gly Ser Glu Glu Asn Thr Pro Leu Asp Leu Asp Asp His Gly
             1045 1050 1055
Gly Arg Thr Phe Leu Arg Val Leu Leu His Leu Thr Met His Asp Tyr
                 1065 1070
Pro Pro Leu Val Ser Gly Ala Leu Gln Leu Leu Phe Arg His Phe Ser
                      1080 1085
Gln Arg Gln Glu Val Leu Gln Ala Phe Lys Gln Val Gln Leu Leu Val
          1095
                                     1100
Thr Ser Gln Asp Val Asp Asn Tyr Lys Gln Ile Lys Gln Asp Leu Asp
                                 1115
                1110
Gln Leu Arg Ser Ile Val Glu Lys Ser Glu Leu Trp Val Tyr Lys Gly
                             1130
Gln Gly Pro Asp Glu Pro Met Asp Gly Ala Ser Gly Glu Asn Glu His
         1140 1145
Lys Lys Thr Glu Glu Gly Thr Ser Lys Pro Leu Lys His Glu Ser Thr
                       1160 1165
Ser Ser Tyr Asn Tyr Arg Val Val Lys Glu Ile Leu Ile Arg Leu Ser
  1170 1175
Lys Leu Cys Val Gln Glu Ser Ala Ser Val Arg Lys Ser Arg Lys Gln
                1190
                                 1195
Gln Gln Arg Leu Leu Arg Asn Met Gly Ala His Ala Val Val Leu Glu
                             1210
Leu Leu Gln Ile Pro Tyr Glu Lys Ala Glu Asp Thr Lys Met Gln Glu
                        1225
Ile Met Arg Leu Ala His Glu Phe Leu Gln Asn Phe Cys Ala Gly Asn
                       1240
Gln Gln Asn Gln Ala Leu Leu His Lys His Ile Asn Leu Phe Leu Asn
                   1255
                                     1260
Pro Gly Ile Leu Glu Ala Val Thr Met Gln His Ile Phe Met Asn Asn
                1270
                                 1275
Phe Gln Leu Cys Ser Glu Ile Asn Glu Arg Val Val Gln His Phe Val
             1285
                              1290
His Cys Ile Glu Thr His Gly Arg Asn Val Gln Tyr Ile Lys Phe Leu
                          1305
          1300
Gln Thr Ile Val Lys Ala Glu Gly Lys Phe Ile Lys Lys Cys Gln Asp
                       1320
                                        1325
Met Val Met Ala Glu Leu Val Asn Ser Gly Glu Asp Val Leu Val Phe
                   1335
                                     1340
Tyr Asn Asp Arg Ala Ser Phe Gln Thr Leu Ile Gln Met Met Arg Ser
       1350 1355
Glu Arg Asp Arg Met Asp Glu Asn Ser Pro Leu Phe Met Tyr His Ile
             1365 1370 1375
His Leu Val Glu Leu Leu Ala Val Cys Thr Glu Gly Lys Asn Val Tyr
          1380
                          1385
```

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Thr Glu Ile Lys Cys Asn Ser Leu Leu Pro Leu Asp Asp Ile Val Arg
                      1400
Val Val Thr His Glu Asp Cys Ile Pro Glu Val Lys Ile Ala Tyr Ile
                   1415
                                    1420
Asn Phe Leu Asn His Cys Tyr Val Asp Thr Glu Val Glu Met Lys Glu
                1430 1435
Ile Tyr Thr Ser Asn His Met Trp Lys Leu Phe Glu Asn Phe Leu Val
             1445
                             1450 1455
Asp Ile Cys Arg Ala Cys Asn Asn Thr Ser Asp Arg Lys His Ala Asp
          1460
                          1465
Ser Val Leu Glu Lys Tyr Val Thr Glu Ile Val Met Ser Ile Val Thr
      1475
                       1480
Thr Phe Phe Ser Ser Pro Phe Ser Asp Gln Ser Thr Thr Leu Gln Thr
                    1495
                                     1500
Arg Gln Pro Val Phe Val Gln Leu Leu Gln Gly Val Phe Arg Val Tyr
                1510
                                 1515
His Cys Asn Trp Leu Met Pro Ser Gln Lys Ala Ser Val Glu Ser Cys
             1525
                              1530
Ile Arg Val Leu Ser Asp Val Ala Lys Ser Arg Ala Ile Ala Ile Pro
                          1545
          1540
Val Asp Leu Asp Ser Gln Val Asn Asn Leu Phe Leu Lys Ser His Asn
                       1560 1565
Ile Val Gln Lys Thr Ala Met Asn Trp Arg Leu Ser Ala Arg Asn Ala
                   1575 1580
Ala Arg Arg Asp Ser Val Leu Ala Ala Ser Arg Asp Tyr Arg Asn Ile
                1590
                                1595
Ile Glu Arg Leu Gln Asp Ile Val Ser Ala Leu Glu Asp Arg Leu Arg
                              1610
             1605
Pro Leu Val Gln Ala Glu Leu Ser Val Leu Val Asp Val Leu His Arq
                          1625 1630
         1620
Pro Glu Leu Leu Phe Pro Glu Asn Thr Asp Ala Arg Arg Lys Cys Glu
                       1640 1645
Ser Gly Gly Phe Ile Cys Lys Leu Ile Lys His Thr Lys Gln Leu Leu
                   1655 1660
Glu Glu Asn Glu Glu Lys Leu Cys Ile Lys Val Leu Gln Thr Leu Arg
                1670
                                1675 1680
Glu Met Met Thr Lys Asp Arg Gly Tyr Gly Glu Lys Gln Ile Ser Ile
            1685
                             1690 1695
Asp Glu Leu Glu Asn Ala Glu Leu Pro Gln Pro Pro Glu Ala Glu Asn
         1700 1705 1710
Ser Thr Glu Glu Leu Glu Pro Ser Pro Pro Leu Arg Gln Leu Glu Asp
                      1720
                                       1725
His Lys Arg Gly Glu Ala Leu Arg Gln Ile Leu Val Asn Arg Tyr Tyr
                   1735
                                    1740
Gly Asn Ile Arg Pro Ser Gly Arg Arg Glu Asp Leu Thr Ser Phe Gly
               1750
                                 1755
Asn Gly Pro Leu Ser Pro Gly Gly Pro Ser Lys Pro Gly Gly Gly Gly
            1765
                              1770
Gly Gly Pro Gly Ser Gly Ser Thr Ser Arg Gly Glu Met Ser Leu Ala
                          1785
Glu Val Gln Cys His Leu Asp Lys Glu Gly Ala Ser Asn Leu Val Ile
                      1800
Asp Leu Ile Met Asn Ala Ser Ser Asp Arg Val Phe His Glu Ser Ile
                   1815
                                    1820
Leu Leu Ala Ile Ala Leu Leu Glu Gly Gly Asn Thr Thr Ile Gln His
                1830
                                 1835
Ser Phe Phe Cys Arg Leu Thr Glu Asp Lys Lys Ser Glu Lys Phe Phe
            1845
                              1850
Lys Val Phe Tyr Asp Arg Met Lys Val Ala Gln Glu Ile Lys Ala
         1860 1865 1870
Thr Val Thr Val Asn Thr Ser Asp Leu Gly Asn Lys Lys Asp Asp
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							1880					1885			
Glu	Val 1890		Arg	Asp	Ala	Pro 1895		Arg	Lys	Lys	Ala 1900		Glu	Pro	Thr
Thr 1905		Ile	Thr	Glu	Glu 1910		Arg	Asp	Gln	Leu 1915		Glu	Ala	Ser	Ala 1920
Ala	Thr	Arg	Lys	Ala 1925		Thr	Thr	Phe	Arg 1930		Glu	Ala	Asp	Pro 1935	
Asp	His	Tyr	Gln 1940	Ser		Glu	Gly	Thr 1945	Gln		Thr	Thr	Asp 1950	_	Ala
Lys	Asp	Asp 1959		Glu	Met	Ser	Ala 1960		Ile	Thr	Ile	Met 1965	Gln 5	Pro	Ile
Leu	Arg 1970		Leu	Gln	Leu	Leu 1975		Glu	Asn	His	Asn 1980		Asp	Leu	Gln
Asn 1985		Leu	Arg	Cys	Gln 1990		Asn	Lys	Thr	Asn 1995		Asn	Leu	Val	Cys 2000
Glu	Thr	Leu	Gln	Phe 2005		Asp	Cys	Ile	Cys 2010		Ser	Thr	Thr	Gly 2015	
Leu	Gly	Leu	Leu 2020		Leu	Tyr	Ile	Asn 2025		Lys	Asn	Val	Ala 2030		Ile
Asn	Gln	Thr 2035		Glu	Ser	Leu	Thr 2040		Tyr	Cys	Gln	Gly 2045	Pro	Cys	His
Glu	Asn 2050		Asn	Cys	Ile	Ala 2055		His	Glu	Ser	Asn 2060	_	Ile	Asp	Ile
Ile 2065		Ala	Leu	Ile	Leu 2070		Asp	Ile	Asn	Pro 2075		Gly	Lys	Lys	Arg 2080
Met	Asp	Leu	Val	Leu 2085		Leu	Lys	Asn	Asn 2090		Ser	Lys	Leu	Leu 2095	
Ala	Ile	Met	Glu 2100		Arg	His	Asp	Ser 2105		Asn	Ala	Glu	Arg 2110		Leu
Tyr	Asn	Met 211		Pro	Lys	Glu	Leu 2120		Glu	Val	Ile	Lys 2125	Lys 5	Ala	Tyr
Met	Gln 2130	_	Glu	Val	Glu	Phe 2135		Asp	Gly	Glu	Asn 2140		Glu	Asp	Gly
Ala 2145		Ser	Pro	Arg	Asn 2150		Gly	His	Asn	Ile 2155		Ile	Leu	Ala	His 2160
	Leu	Ala	Arg	His 2169		Lys	Glu	Leu	Gln		Met	Leu	Lys	Pro 2175	
Glv									2170						
			2180	)	Asp			2185	Glu 5	Phe			Lys 2190	His O	Thr
Ala	Gln	Ile 219	2180 Glu 5	) Ile	Asp Val	Arg	Leu 2200	2185 Asp )	Glu S Arg	Phe Thr	Met	Glu 2209	2190 Gln 5	His ) Ile	Thr Val
Ala Phe	Gln Pro 2210	Ile 219! Val	2180 Glu Fro	Ile Ser	Asp Val Ile	Arg Cys 2215	Leu 2200 Glu	2189 Asp ) Phe	Glu S Arg Leu	Phe Thr Thr	Met Lys 2220	Glu 220! Glu )	2190 Gln 5 Ser	His ) Ile Lys	Thr Val Leu
Ala Phe	Gln Pro 2210 Ile	Ile 219! Val	2180 Glu Fro	Ile Ser	Asp Val Ile	Arg Cys 2215 Glu	Leu 2200 Glu	2189 Asp ) Phe	Glu S Arg Leu	Phe Thr Thr	Met Lys 2220 Gly	Glu 220! Glu )	2190 Gln 5 Ser	His ) Ile Lys	Thr Val
Ala Phe Arg 2225	Gln Pro 2210 Ile	Ile 219! Val ) Tyr	2180 Glu Fro Tyr	Ile Ser Thr	Asp Val Ile Thr 2230 Ser	Arg Cys 2215 Glu	Leu 2200 Glu S Arg	2189 Asp ) Phe Asp	Glu S Arg Leu Glu	Thr Thr Gln 2235 Asn	Met Lys 2220 Gly	Glu 2209 Glu ) Ser	2190 Gln Ser Lys	His Ile Lys Ile	Thr Val Leu Asn 2240 Gln
Ala Phe Arg 2225 Asp	Gln Pro 2210 Ile Dhe	Ile 2199 Val ) Tyr Phe	2180 Glu Fro Tyr	Ile Ser Thr Arg 2245	Asp Val Ile Thr 2230 Ser	Arg Cys 2215 Glu Glu	Leu 2200 Glu Arg Asp	Asp  Phe  Asp  Leu	Glu Arg Leu Glu Phe 2250	Thr Thr Gln 2235 Asn	Met Lys 2220 Gly Glu	Glu 2209 Glu ) Ser Met	2190 Gln Ser Lys Asn	His Ile Lys Ile Trp 2259	Thr Val Leu Asn 2240 Gln
Ala Phe Arg 2225 Asp	Gln Pro 2210 Ile The Lys	Ile 219! Val ) Tyr Phe Leu	2180 Glu Fro Tyr Leu Arg 2260 Ser	Ile Ser Thr Arg 2245 Ala	Asp Val Ile Thr 2230 Ser Gln	Arg Cys 2215 Glu Glu Pro	Leu 2200 Glu Arg Asp	Asp Phe Asp Leu 2269	Glu  Arg  Leu  Glu  Phe 2250  Tyr	Thr Thr Gln 2239 Asn Trp	Lys 2220 Gly Glu Cys	Glu 2209 Glu ) Ser Met	2190 Gln Ser Lys Asn Arg 2270 Met	His Ile Lys Ile Trp 2259 Asn	Thr Val Leu Asn 2240 Gln 5
Ala Phe Arg 2225 Asp Lys Ser	Gln Pro 2210 Ile Phe Lys Phe	Ile 2199 Val Tyr Phe Leu Trp 2279 Ala	2180 Glu Fro Tyr Leu Arg 2260 Ser	Ile Ser Thr Arg 2245 Ala Ser	Asp Val Ile Thr 2230 Ser Gln Ile	Cys 2219 Glu Glu Pro Ser	Leu 2200 Glu Arg Asp Val Phe 2280 Phe	Asp Phe Asp Leu 2265 Asn	Glu Arg Leu Glu Phe 2250 Tyr Leu	Thr Thr Gln 2235 Asn Trp Ala	Lys 2220 Gly Glu Cys Val	Glu 2209 Glu Ser Met Ala Leu 2289 Gly	2190 Gln Ser Lys Asn Arg 2270 Met	His Ile Lys Ile Trp 2259 Asn	Thr Val Leu Asn 2240 Gln 5 Met
Ala Phe Arg 2225 Asp Lys Ser Leu	Gln Pro 2210 Ile Phe Lys Phe Val 2290 Pro	Ile 2199 Val Tyr Phe Leu Trp 2279 Ala	2180 Glu Pro Tyr Leu Arg 2260 Ser	Ile Ser Thr Arg 2245 Ala Ser Phe	Asp Val Ile Thr 2230 Ser Gln Ile Tyr	Cys 2215 Glu Glu Pro Ser Pro 2295 Leu	Leu 2200 Glu Arg Asp Val Phe 2280 Phe	Asp Phe Asp Leu 2269 Asn Lys	Glu Arg Leu Glu Phe 2250 Tyr Leu Gly	Thr Thr Gln 2235 Asn Trp Ala Val	Lys 2220 Gly Glu Cys Val Arg 2300 Met	Glu 2209 Glu Ser Met Ala Leu 2289 Gly	2190 Gln Ser Lys Asn Arg 2270 Met 5	His Ile Lys Ile Trp 2259 Asn O Asn	Thr Val Leu Asn 2240 Gln Met Leu
Ala Phe Arg 2225 Asp Lys Ser Leu Glu 2305 Ala	Pro 2210 11e Phe Lys Phe Val 2290 Pro 11e	Ile 2199 Val Tyr Phe Leu Trp 2279 Ala His	2180 Glu Fro Tyr Leu Arg 2260 Ser The Trp	Ile Ser Thr Arg 2245 Ala Ser Phe Ser Ala 2325	Asp Val Ile Thr 2230 Ser Gln Ile Tyr Gly 2310 Leu 5	Cys 2215 Glu Glu Pro Ser Pro 2295 Leu Pro	Leu 2200 Glu Arg Asp Val Phe 2280 Phe Leu	2185 Asp Phe Asp Leu 2265 Asn Lys Trp	Glu Arg Leu Glu Phe 2250 Tyr Leu Gly Thr His 2330	Thr Thr Gln 2235 Asn Trp Ala Val Ala 2315 Gly	Lys 2220 Gly Glu Cys Val Arg 2300 Met	Glu 2209 Glu Ser Met Ala Leu 2289 Gly Leu Arg	2190 Gln Ser Lys Asn Arg 2270 Met Gly Ile	His Ile Lys Ile Trp 225! Asn O Asn Thr Ser Leu 233!	Thr Val Leu Asn 2240 Gln 6 Met Leu Leu Leu 2320 Ile
Ala Phe Arg 2225 Asp Lys Ser Leu Glu 2305 Ala	Pro 2210 11e Phe Lys Phe Val 2290 Pro 11e	Ile 2199 Val Tyr Phe Leu Trp 2279 Ala His	2180 Glu Fro Tyr Leu Arg 2260 Ser The Trp	Ile Ser Thr Arg 2245 Ala Ser Phe Ser Ala 2325 Leu	Asp Val Ile Thr 2230 Ser Gln Ile Tyr Gly 2310 Leu 5	Cys 2215 Glu Glu Pro Ser Pro 2295 Leu Pro	Leu 2200 Glu Arg Asp Val Phe 2280 Phe Leu	2185 Asp Phe Asp Leu 2265 Asn Lys Trp	Glu Arg Leu Glu Phe 2250 Tyr Leu Gly Thr His 2330 Ser	Thr Thr Gln 2235 Asn Trp Ala Val Ala 2315 Gly	Lys 2220 Gly Glu Cys Val Arg 2300 Met	Glu 2209 Glu Ser Met Ala Leu 2289 Gly Leu Arg	2190 Gln Ser Lys Asn Arg 2270 Met Gly Ile	His Ile Lys Ile Trp 2259 Asn Asn Thr Ser Leu 2339 Pro	Thr Val Leu Asn 2240 Gln Met Leu Leu Leu 2320 Ile

```
Met Ser Phe Val Gly Asn Cys Gly Thr Phe Thr Arg Gly Tyr Arg Ala
   2370
                       2375
                                          2380
Met Val Leu Asp Val Glu Phe Leu Tyr His Leu Leu Tyr Leu Leu Ile
                   2390
                                       2395
Cys Ala Met Gly Leu Phe Val His Glu Phe Phe Tyr Ser Leu Leu
                                  2410
               2405
Phe Asp Leu Val Tyr Arg Glu Glu Thr Leu Leu Asn Val Ile Lys Ser
                               2425
           2420
Val Thr Arg Asn Gly Arg Pro Ile Ile Leu Thr Ala Ala Leu Ala Leu
                          2440
Ile Leu Val Tyr Leu Phe Ser Ile Val Gly Tyr Leu Phe Phe Lys Asp
                      2455
                                          2460
Asp Phe Ile Leu Glu Val Asp Arg Leu Pro Asn Glu Thr Ala Gly Pro
                   2470
                                      2475
Glu Thr Gly Glu Ser Leu Ala Asn Asp Phe Leu Tyr Ser Asp Val Cys
                                  2490
Arg Val Glu Thr Gly Glu Asn Cys Thr Ser Pro Ala Pro Lys Glu Glu
                              2505
Leu Leu Pro Val Glu Glu Thr Glu Gln Asp Lys Glu His Thr Cys Glu
                           2520
Thr Leu Leu Met Cys Ile Val Thr Val Leu Ser His Gly Leu Arg Ser
                      2535
                                          2540
Gly Gly Val Gly Asp Val Leu Arg Lys Pro Ser Lys Glu Glu Pro
                  2550
                                      2555
Leu Phe Ala Ala Arg Val Ile Tyr Asp Leu Leu Phe Phe Met Val
              2565
                                  2570
Ile Ile Ile Val Leu Asn Leu Ile Phe Gly Val Ile Ile Asp Thr Phe
                               2585
Ala Asp Leu Arg Ser Glu Lys Gln Lys Lys Glu Glu Ile Leu Lys Thr
                          2600
                                            - 2605
Thr Cys Phe Ile Cys Gly Leu Glu Arg Asp Lys Phe Asp Asn Lys Thr
                      2615
                                          2620
Val Thr Phe Glu Glu His Ile Lys Glu Glu His Asn Met Trp His Tyr
                   2630
                                      2635
Leu Cys Phe Ile Val Leu Val Lys Val Lys Asp Ser Thr Glu Tyr Thr
                                  2650
               2645
Gly Pro Glu Ser Tyr Val Ala Glu Met Ile Arg Glu Arg Asn Leu Asp
                                                  2670
           2660
                               2665
Trp Phe Pro Arg Met Arg Ala Met Ser Leu Val Ser Ser Asp Ser Glu
                          2680
                                              2685
Gly Glu Gln Asn Glu Leu Arg Asn Leu Gln Glu Lys Leu Glu Ser Thr
                      2695
                                          2700
Met Lys Leu Val Thr Asn Leu Ser Gly Gln Leu Ser Glu Leu Lys Asp
                   2710
                                      2715
Gln Met Thr Glu Gln Arg Lys Gln Lys Gln Arg Ile Gly Leu Leu Gly
               2725
                                  2730
His Pro Pro His Met Asn Val Asn Pro Gln Gln Pro Ala
           2740
                               2745
```

```
<210> 9
<211> 2710
<212> PRT
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<sup>&</sup>lt;213> Artificial Sequence

<sup>&</sup>lt;220>

<sup>&</sup>lt;400> 9 Met Ser Asp Lys Met Ser Ser Phe Leu His Ile Gly Asp Ile Cys Ser

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10
Leu Tyr Ala Glu Gly Ser Thr Asn Gly Phe Ile Ser Thr Leu Gly Leu
                               25
Val Asp Asp Arg Cys Val Val Gln Pro Glu Ala Gly Asp Leu Asn Asn
                           40
Pro Pro Lys Lys Phe Arg Asp Cys Leu Phe Lys Leu Cys Pro Met Asn
                       55
Arg Tyr Ser Ala Gln Lys Gln Phe Trp Lys Ala Ala Lys Pro Gly Ala
                   70
                                        75
Asn Ser Thr Thr Asp Ala Val Leu Leu Asn Lys Leu His His Ala Ala
                                   90
               85
Asp Leu Glu Lys Lys Gln Asn Glu Thr Glu Asn Arg Lys Leu Leu Gly
           100
                               105
                                                   110
Thr Val Ile Gln Tyr Gly Asn Val Ile Gln Leu Leu His Leu Lys Ser
                                    · 125
                           120
Asn Lys Tyr Leu Thr Val Asn Lys Arg Leu Pro Ala Leu Leu Glu Lys
                       135
                                           140
Asn Ala Met Arg Val Thr Leu Asp Glu Ala Gly Asn Glu Gly Ser Trp
                   150
                                       155
Phe Tyr Ile Gln Pro Phe Tyr Lys Leu Arg Ser Ile Gly Asp Ser Val
                                   170
Val Ile Gly Asp Lys Val Val Leu Asn Pro Val Asn Ala Gly Gln Pro
                               185
Leu His Ala Ser Ser His Gln Leu Val Asp Asn Pro Gly Cys Asn Glu
                           200
Val Asn Ser Val Asn Cys Asn Thr Ser Trp Lys Ile Val Leu Phe Met
                       215
                                           220
Lys Trp Ser Asp Asn Lys Asp Asp Ile Leu Lys Gly Gly Asp Val Val
                   230
                                       235
Arg Leu Phe His Ala Glu Glu Glu Lys Phe Leu Thr Cys Asp Glu His
               245
                                   250
Arg Lys Lys Gln His Val Phe Leu Arg Thr Thr Gly Arg Gln Ser Ala
                               265
           260
Thr Ser Ala Thr Ser Ser Lys Ala Leu Trp Glu Val Glu Val Val Gln
                           280
His Asp Pro Cys Arg Gly Gly Ala Gly Tyr Trp Asn Ser Leu Phe Arg
                                           300
                       295
Phe Lys His Leu Ala Thr Gly His Tyr Leu Ala Ala Glu Val Asp Pro
                   310
                                       315
Asp Phe Glu Glu Glu Cys Leu Glu Phe Gln Pro Ser Val Asp Pro Asp
                                   330
               325
Gln Asp Ala Ser Arg Ser Arg Leu Arg Asn Ala Gln Glu Lys Met Val
                               345
           340
Tyr Ser Leu Val Ser Val Pro Glu Gly Asn Asp Ile Ser Ser Ile Phe
                           360
                                               365
Glu Leu Asp Pro Thr Thr Leu Arg Gly Gly Asp Ser Leu Val Pro Arg
                                           380
                       375
Asn Ser Tyr Val Arg Leu Arg His Leu Cys Thr Asn Thr Trp Val His
                   390
                                       395
Ser Thr Asn Ile Pro Ile Asp Lys Glu Glu Lys Pro Val Met Leu
                405
                                    410
Lys Ile Gly Thr Ser Pro Leu Lys Glu Asp Lys Glu Ala Phe Ala Ile
            420
                                425
                                                    430
Val Pro Val Ser Pro Ala Glu Val Arg Asp Leu Asp Phe Ala Asn Asp
                            440
                                               445
Ala Ser Lys Val Leu Gly Ser Ile Ala Gly Lys Leu Glu Lys Gly Thr
                                            460
                        455
Ile Thr Gln Asn Glu Arg Arg Ser Val Thr Lys Leu Leu Glu Asp Leu
                                        475
                   470
Val Tyr Phe Val Thr Gly Gly Thr Asn Ser Gly Gln Asp Val Leu Glu
                                    490
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```
Val Val Phe Ser Lys Pro Asn Arg Glu Arg Gln Lys Leu Met Arg Glu
            500
                                505
Gln Asn Ile Leu Lys Gln Ile Phe Lys Leu Leu Gln Ala Pro Phe Thr
                            520
Asp Cys Gly Asp Gly Pro Met Leu Arg Leu Glu Glu Leu Gly Asp Gln
Arg His Ala Pro Phe Arg His Ile Cys Arg Leu Cys Tyr Arg Val Leu
                    550
                                        555
Arg His Ser Gln Gln Asp Tyr Arg Lys Asn Gln Glu Tyr Ile Ala Lys
                565
                                    570
Gln Phe Gly Phe Met Gln Lys Gln Ile Gly Tyr Asp Val Leu Ala Glu
            580
                                585
Asp Thr Ile Thr Ala Leu Leu His Asn Asn Arg Lys Leu Leu Glu Lys
                            600
                                                605
His Ile Thr Ala Ala Glu Ile Asp Thr Phe Val Ser Leu Val Arg Lys
                        615
                                            620
Asn Arg Glu Pro Arg Phe Leu Asp Tyr Leu Ser Asp Leu Cys Val Ser
                    630
                                       635
Met Asn Lys Ser Ile Pro Val Thr Gln Glu Leu Ile Cys Lys Ala Val
               645
                                    650
Leu Asn Pro Thr Asn Ala Asp Ile Leu Ile Glu Thr Lys Leu Val Leu
           660
                                665
Ser Arg Phe Glu Phe Glu Gly Val Ser Thr Gly Glu Asn Ala Leu Glu
                            680
Ala Gly Glu Asp Glu Glu Glu Val Trp Leu Phe Trp Arg Asp Ser Asn
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Lys Glu Ile Arg Ser Lys Ser Val Arg Glu Leu Ala Gln Asp Ala Lys
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Glu Gly Gln Lys Glu Asp Arg Asp Val Leu Ser Tyr Tyr Arg Tyr Gln
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Leu Asn Leu Phe Ala Arg Met Cys Leu Asp Arg Gln Tyr Leu Ala Ile
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Asn Glu Ile Ser Gly Gln Leu Asp Val Asp Leu Ile Leu Arg Cys Met
                            760
Ser Asp Glu Asn Leu Pro Tyr Asp Leu Arg Ala Ser Phe Cys Arg Leu
                        775
                                            780
Met Leu His Met His Val Asp Arg Asp Pro Gln Glu Gln Val Thr Pro
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                                        795
Val Lys Tyr Ala Arg Leu Trp Ser Glu Ile Pro Ser Glu Ile Ala Ile
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Asp Asp Tyr Asp Ser Ser Gly Ala Ser Lys Asp Glu Ile Lys Glu Arg
                                825
Phe Ala Gln Thr Met Glu Phe Val Glu Glu Tyr Leu Arg Asp Val Val
                            840
Cys Gln Arg Phe Pro Phe Ser Asp Lys Glu Lys Asn Lys Leu Thr Phe
                       855
                                            860
Glu Val Val Asn Leu Ala Arg Asn Leu Ile Tyr Phe Gly Phe Tyr Asn
                    870
                                        875
Phe Ser Asp Leu Leu Arg Leu Thr Lys Ile Leu Leu Ala Ile Leu Asp
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                                    890
Cys Val His Val Thr Thr Ile Phe Pro Ile Ser Lys Met Thr Lys Gly
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Glu Glu Asn Lys Gly Ser Asn Val Met Arg Ser Ile His Gly Val Gly
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Glu Leu Met Thr Gln Val Val Leu Arg Gly Gly Phe Leu Pro Met
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Thr Pro Met Ala Ala Pro Glu Gly Asn Val Lys Gln Ala Glu Pro
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Glu Lys Glu Asp Ile Met Val Met Asp Thr Lys Leu Lys Ile Ile Glu
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Ile Leu Gln Phe Ile Leu Asn Val Arg Leu Asp Tyr Arg Ile Ser Cys
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Pro Gly Ala Leu 1025			Ile Glu			Gly Ile 1040
Phe Gly Gly Ser		Asn Thr	Pro Leu 1050	Asp Leu	Asp Asp	
Gly Arg Thr Phe	Leu Arg V				Met His	Asp Tyr
Pro Pro Leu Val			Gln Leu	Leu Phe		
Gln Arg Gln Glu 1090				Gln Val	Gln Leu	Leu Val
Thr Ser Gln Asp			Lys Gln			Leu Asp 1120
Gln Leu Arg Ser		Glu Lys	Ser Glu 1130	Leu Trp	Val Tyr	
Gln Gly Pro Asp	Glu Pro M	_			Glu Asr	Glu His
Lys Lys Thr Glu 1155	Glu Gly T		Lys Pro	Leu Lys		
Ser Ser Tyr Asn 1170				Ile Leu 1180	Ile Arg	J Leu Ser
Lys Leu Cys Val			Ser Val			J Lys Gln 1200
Gln Gln Arg Leu		Asn Met	Gly Ala 1210	His Ala	Val Val	
Leu Leu Gln Ile 122	Pro Tyr C	Glu Lys			Lys Met	: Gln Glu
Ile Met Arg Leu 1235		Glu Phe 1240	Leu Gln	Asn Phe		
Gln Gln Asn Gln			Lys His	Ile Asn 1260		e Leu Asn
1250		1255				
Pro Gly Ile Leu 1265			Met Gln			Asn Asn 1280
Pro Gly Ile Leu	Glu Ala V 1270	Val Thr		His Ile 1275 Val Val	Phe Met	1280
Pro Gly Ile Leu 1265	Glu Ala V 1270 Ser Glu I 1285 Thr His G	Val Thr	Glu Arg 1290 Asn Val	His Ile 1275 Val Val	Phe Met	1280 Phe Val 1295 Phe Leu
Pro Gly Ile Leu 1265 Phe Gln Leu Cys His Cys Ile Glu 130 Gln Thr Ile Val	Glu Ala V 1270 Ser Glu I 1285 Thr His G	Val Thr Ile Asn Gly Arg	Glu Arg 1290 Asn Val 1305 Lys Phe	His Ile 1275 Val Val ) Gln Tyr	Phe Met	1280 Phe Val 1295 Phe Leu
Pro Gly Ile Leu 1265 Phe Gln Leu Cys His Cys Ile Glu 130 Gln Thr Ile Val 1315 Met Val Met Ala	Glu Ala V 1270 Ser Glu I 1285 Thr His G 0 Lys Ala G	Val Thr Ile Asn Gly Arg Glu Gly 1320 Val Asn	Glu Arg 1290 Asn Val 1305 Lys Phe	His Ile 1275 Val Val Oln Tyr Ile Lys Glu Asp	Phe Met Gln His Ile Lys 131 Lys Cys 1325 Val Let	1280 s Phe Val 1295 s Phe Leu 10 s Gln Asp
Pro Gly Ile Leu 1265 Phe Gln Leu Cys His Cys Ile Glu 130 Gln Thr Ile Val 1315 Met Val Met Ala 1330 Tyr Asn Asp Arg	Glu Ala V 1270 Ser Glu I 1285 Thr His G U Lys Ala G Glu Leu V 1 Ala Ser I	Val Thr Ile Asn Gly Arg Glu Gly 1320 Val Asn 1335	Glu Arg 1290 Asn Val 1305 Lys Phe Ser Gly	His Ile 1275 Val Val Cln Tyr Ile Lys Glu Asp 1340 Ile Gln	Phe Met Gln His Ile Lys 131 Lys Cys 1325 Val Let	1280 s Phe Val 1295 s Phe Leu 10 s Gln Asp val Phe c Arg Ser
Pro Gly Ile Leu 1265 Phe Gln Leu Cys His Cys Ile Glu 130 Gln Thr Ile Val 1315 Met Val Met Ala 1330	Glu Ala V 1270 Ser Glu I 1285 Thr His G C Lys Ala G Glu Leu V Ala Ser I 1350 Met Asp G	Val Thr Ile Asn Gly Arg Glu Gly 1320 Val Asn 1335 Phe Gln	Glu Arg 1290 Asn Val 1305 Lys Phe Ser Gly Thr Leu Ser Pro	His Ile 1275 Val Val Cln Tyr Ile Lys Glu Asp 1340 Ile Gln 1355 Leu Phe	Phe Met Gln His Ile Lys 131 Lys Cys 1325 Val Let Met Met	1280 s Phe Val 1295 s Phe Leu 10 s Gln Asp val Phe L Arg Ser 1360 s His Ile
Pro Gly Ile Leu 1265 Phe Gln Leu Cys His Cys Ile Glu 130 Gln Thr Ile Val 1315 Met Val Met Ala 1330 Tyr Asn Asp Arg 1345 Glu Arg Asp Arg	Glu Ala V 1270 Ser Glu I 1285 Thr His G U Lys Ala G Glu Leu V Ala Ser I 1350 Met Asp G 1365 Leu Leu Leu A	Val Thr Ile Asn Gly Arg Ill Gly 1320 Val Asn 1335 Phe Gln Glu Asn	Glu Arg 1290 Asn Val 1305 Lys Phe Ser Gly Thr Leu Ser Pro 1370 Cys Thr	His Ile 1275 Val Val Cln Tyr Ile Lys Glu Asp 1340 Ile Gln 1355 Leu Phe	Phe Met Gln His Ile Lys 131 Lys Cys 1325 Val Leu Met Met Met Tyn Lys Asn	1280 s Phe Val 1295 s Phe Leu 10 s Gln Asp val Phe Arg Ser 1360 s His Ile 1375 s Val Tyr
Pro Gly Ile Leu 1265 Phe Gln Leu Cys His Cys Ile Glu 130 Gln Thr Ile Val 1315 Met Val Met Ala 1330 Tyr Asn Asp Arg 1345 Glu Arg Asp Arg His Leu Val Glu 138 Thr Glu Ile Lys	Glu Ala V 1270 Ser Glu I 1285 Thr His G Lys Ala G Glu Leu V Ala Ser I 1350 Met Asp G 1365 Leu Leu A	Val Thr Ile Asn Gly Arg Ille Gly Ille Asn Ille Asn Ille Asn Ille Gln Glu Asn Ala Val Ser Leu	Glu Arg 1290 Asn Val 1305 Lys Phe Ser Gly Thr Leu Ser Pro 1370 Cys Thr 1385 Leu Pro	His Ile 1275 Val Val Cln Tyr Ile Lys Glu Asp 1340 Ile Gln 1355 Leu Phe Clu Gly	Phe Met Gln His Ile Lys 131 Lys Cys 1325 Val Let Met Met Met Tyn Lys Asn 132 Asp Ile	1280 s Phe Val 1295 s Phe Leu 10 s Gln Asp val Phe Arg Ser 1360 s His Ile 1375 n Val Tyr
Pro Gly Ile Leu 1265 Phe Gln Leu Cys His Cys Ile Glu 130 Gln Thr Ile Val 1315 Met Val Met Ala 1330 Tyr Asn Asp Arg 1345 Glu Arg Asp Arg His Leu Val Glu 138 Thr Glu Ile Lys 1395 Val Val Thr His	Glu Ala V 1270 Ser Glu I 1285 Thr His G Lys Ala G Glu Leu V Ala Ser I 1350 Met Asp G 1365 Leu Leu A C Cys Asn S	Val Thr Ile Asn Ile Asn Ily Arg Ilu Gly Ili Asn Ili	Glu Arg 1290 Asn Val 1305 Lys Phe Ser Gly Thr Leu Ser Pro 1370 Cys Thr 1385 Leu Pro	His Ile 1275 Val Val Cln Tyr Ile Lys Glu Asp 1340 Ile Gln 1355 Leu Phe Glu Gly Leu Asp	Phe Met Gln His Ile Lys 131 Lys Cys 1325 Val Let Met Met Met Tyr Lys Asr 132 Asp Ile 1405 Ile Ala	1280 s Phe Val 1295 s Phe Leu 10 s Gln Asp 1 Val Phe 2 Arg Ser 1360 c His Ile 1375 n Val Tyr 100 e Val Arg
Pro Gly Ile Leu 1265 Phe Gln Leu Cys His Cys Ile Glu 130 Gln Thr Ile Val 1315 Met Val Met Ala 1330 Tyr Asn Asp Arg 1345 Glu Arg Asp Arg His Leu Val Glu 138 Thr Glu Ile Lys 1395 Val Val Thr His 1410 Asn Phe Leu Asn	Glu Ala V 1270 Ser Glu I 1285 Thr His G U Lys Ala G Glu Leu V Ala Ser I 1350 Met Asp G 1365 Leu Leu A C Glu Asp G His Cys I	Val Thr Ile Asn Ile Asn Ily Arg Ilu Gly Ili Ilu	Glu Arg 1290 Asn Val 1305 Lys Phe Ser Gly Thr Leu Ser Pro 1370 Cys Thr 1385 Leu Pro Pro Glu	His Ile 1275 Val Val Cln Tyr Ile Lys Glu Asp 1340 Ile Gln 1355 Leu Phe Glu Gly Leu Asp Val Lys 1420 Glu Val	Phe Met Gln His Ile Lys 131 Lys Cys 1325 Val Let Met Met Met Tyr Lys Asr 132 Asp Ile 1405 Ile Ala	1280 s Phe Val 1295 s Phe Leu 10 s Gln Asp 1 Val Phe 2 Arg Ser 1360 c His Ile 1375 1 Val Tyr 10 c Val Arg 1 Tyr Ile 1 Lys Glu
Pro Gly Ile Leu 1265 Phe Gln Leu Cys His Cys Ile Glu 130 Gln Thr Ile Val 1315 Met Val Met Ala 1330 Tyr Asn Asp Arg 1345 Glu Arg Asp Arg His Leu Val Glu 138 Thr Glu Ile Lys 1395 Val Val Thr His 1410	Glu Ala V 1270 Ser Glu I 1285 Thr His G U Lys Ala G Glu Leu V Ala Ser I 1350 Met Asp G 1365 Leu Leu A C Glu Asp G His Cys I 1430 Asn His M	Val Thr Ile Asn Ile Asn Ily Arg Ilu Gly Ili Asn Ili	Glu Arg 1290 Asn Val 1305 Lys Phe Ser Gly Thr Leu Ser Pro 1370 Cys Thr 1385 Leu Pro Pro Glu Asp Thr	His Ile 1275 Val Val Cln Tyr Ile Lys Glu Asp 1340 Ile Gln 1355 Leu Phe Glu Gly Leu Asp Val Lys 1420 Glu Val 1435 Phe Glu	Phe Met Gln His Ile Lys 131 Lys Cys 1325 Val Leu Met Met Met Tyn Lys Asn 139 Asp Ile 1405 Ile Ala Glu Met	1280 s Phe Val 1295 s Phe Leu 10 s Gln Asp a Val Phe 1360 c His Ile 1375 a Val Tyr 10 c Val Arg a Tyr Ile 1440 c Leu Val
Pro Gly Ile Leu 1265 Phe Gln Leu Cys His Cys Ile Glu 130 Gln Thr Ile Val 1315 Met Val Met Ala 1330 Tyr Asn Asp Arg 1345 Glu Arg Asp Arg His Leu Val Glu 138 Thr Glu Ile Lys 1395 Val Val Thr His 1410 Asn Phe Leu Asn	Glu Ala V 1270 Ser Glu I 1285 Thr His G U Lys Ala G Glu Leu V Ala Ser F 1350 Met Asp G 1365 Leu Leu A C Cys Asn S Glu Asp G His Cys T 1430 Asn His M	Val Thr Ile Asn Ile Asn Ily Arg Ilu Gly Ili Ilu Ili Ilu Ili	Glu Arg 1290 Asn Val 1305 Lys Phe Ser Gly Thr Leu Ser Pro 1370 Cys Thr 1385 Leu Pro Pro Glu Asp Thr Lys Leu 1450	His Ile 1275 Val Val Cln Tyr Ile Lys Glu Asp 1340 Ile Gln 1355 Leu Phe Glu Gly Leu Asp Val Lys 1420 Glu Val 1435 Phe Glu	Phe Met Gln His Ile Lys 131 Lys Cys 1325 Val Leu Met Met Met Tyr Lys Asr 132 Asp Ile 1405 Ile Ala Glu Met Asn Phe	1280 s Phe Val 1295 s Phe Leu 10 s Gln Asp a Val Phe 1360 c His Ile 1375 a Val Tyr 10 c Val Arg a Tyr Ile 1440 c Leu Val 1455 s Ala Asp

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                         1545
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            1560 1565
      1555
Ile Val Gln Lys Thr Ala Met Asn Trp Arg Leu Ser Ala Arg Asn Ala
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                      1595
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       1605
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                1625
Pro Glu Leu Leu Phe Pro Glu Asn Thr Asp Ala Arq Arq Lys Cys Glu
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Ser Gly Gly Phe Ile Cys Lys Leu Ile Lys His Thr Lys Gln Leu Leu
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                                1675
Glu Met Met Thr Lys Asp Arg Gly Tyr Gly Glu Lys Gly Glu Ala Leu
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Arg Arg Glu Glu Leu Thr Ser Phe Gly Asn Gly Pro Leu Ser Pro Gly
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Gly Pro Ser Lys Pro Gly Gly Gly Gly Gly Pro Gly Ser Gly Ser
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Lys Glu Gly Ala Ser Asn Leu Val Ile Asp Leu Ile Met Asn Ala Ser
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                             1770
Ser Asp Arg Val Phe His Glu Ser Ile Leu Leu Ala Ile Ala Leu Leu
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                          1785
Glu Gly Gly Asn Thr Thr Ile Gln His Ser Phe Phe Cys Arg Leu Thr
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                                    1820
Lys Val Ala Gln Glu Ile Lys Ala Thr Val Thr Val Asn Thr Ser
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                                1835
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                             1850
Ser Arg Lys Lys Ala Lys Glu Pro Thr Thr Gln Ile Thr Glu Glu Val
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                          1865
Arg Asp Gln Leu Leu Glu Ala Ser Ala Ala Thr Arg Lys Ala Phe Thr
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                                       1885
Thr Phe Arg Arg Glu Ala Asp Pro Asp Asp His Tyr Gln Ser Gly Glu
         1895
                                    1900
Gly Thr Gln Ala Thr Thr Asp Lys Ala Lys Asp Asp Leu Glu Met Ser
                1910
                        1915
Ala Val Ile Thr Ile Met Gln Pro Ile Leu Arg Phe Leu Gln Leu Leu
             1925
                              1930
Cys Glu Asn His Asn Arg Asp Leu Gln Asn Phe Leu Arg Cys Gln Asn
   1940 1945 1950
Asn Lys Thr Asn Tyr Asn Leu Val Cys Glu Thr Leu Gln Phe Leu Asp
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Cys Ile Cys Gly 1970	Ser Thr Thr	•	Gly Leu 1980		Leu Tyr
Ile Asn Glu Lys 1985	Asn Val Ala 1990	Leu Ile Asn	Gln Thr 1995	Leu Glu	Ser Leu 2000
Thr Glu Tyr Cys	Gln Gly Pro 2005	Cys His Glu 201		_	Ile Ala 2015
Thr His Glu Ser 2020	_	Asp Ile Ile 2025	Thr Ala	Leu Ile 2030	Leu Asn
Asp Ile Asn Pro 2035	Leu Gly Lys	Lys Arg Met 2040	Asp Leu	Val Leu 2045	Glu Leu
Lys Asn Asn Ala 2050	Ser Lys Leu 2059		Ile Met 2060		Arg His
Asp Ser Glu Asn 2065	Ala Glu Arg 2070	Ile Leu Tyr	Asn Met 2075	Arg Pro	Lys Glu 2080
Leu Val Glu Val	Ile Lys Lys 2085	Ala Tyr Met			Glu Phe 2095
Glu Asp Gly Glu 2100		Asp Gly Ala 2105	Ala Ser	Pro Arg 2110	
Gly His Asn Ile 2115	Tyr Ile Leu	Ala His Gln 2120	Leu Ala	Arg His 2125	Asn Lys
Glu Leu Gln Thr 2130	Met Leu Lys 2135		Gln Val 2140		Asp Glu
Ala Leu Glu Phe 2145	Tyr Ala Lys 2150	His Thr Ala	Gln Ile 2155	Glu Ile	Val Arg 2160
Leu Asp Arg Thr	Met Glu Gln 2165	Ile Val Phe			Ile Cys 2175
Glu Phe Leu Thr 2180		Lys Leu Arg 2185	Ile Tyr	Tyr Thr 2190	
Arg Asp Glu Gln 2195	Gly Ser Lys	Ile Asn Asp 2200	Phe Phe	Leu Arg 2205	Ser Glu
Asp Leu Phe Asn 2210			Lys Leu 2220		Gln Pro
Val Leu Tyr Trp 2225	2230		2235		2240
Phe Asn Leu Ala	Val Leu Met 2245	Asn Leu Leu 225			Tyr Pro 2255
Phe Lys Gly Val 2260	<del>)</del>	2265		2270	
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Lys Pro His Gly 2290	229	5	2300	)	
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Gly Thr Phe Thr 2340		Arg Ala Met 2345	Val Leu	Asp Val 2350	
Leu Tyr His Leu 2355	Leu Tyr Leu	Leu Ile Cys 2360	: Ala Met	Gly Leu 2365	Phe Val
His Glu Phe Phe 2370	2375	5	2380	)	_
Glu Thr Leu Leu 2385	Asn Val Ile 2390	Lys Ser Val	Thr Arg 2395	Asn Gly	Arg Pro 2400
Ile Ile Leu Thr	Ala Ala Leu 2405	Ala Leu Ile 241			Phe Ser 2415
Ile Val Gly Tyr 2420		Lys Asp Asp 2425	Phe Ile	Leu Glu 2430	
Arg Leu Pro Asn 2435	Glu Thr Ala	Gly Pro Glu 2440	Thr Gly	Glu Ser 2445	Leu Ala

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                                           2460
Cys Thr Ser Pro Ala Pro Lys Glu Glu Leu Leu Pro Val Glu Glu Thr
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                                       2475
Glu Gln Asp Lys Glu His Thr Cys Glu Thr Leu Leu Met Cys Ile Val
               2485
                                   2490
Thr Val Leu Ser His Gly Leu Arg Ser Gly Gly Val Gly Asp Val
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Leu Arg Lys Pro Ser Lys Glu Glu Pro Leu Phe Ala Ala Arg Val Ile
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        2515
                           2520
Tyr Asp Leu Leu Phe Phe Phe Met Val Ile Ile Ile Val Leu Asn Leu
    2530
                       2535
                                           2540
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Gln Lys Lys Glu Glu Ile Leu Lys Thr Thr Cys Phe Ile Cys Gly Leu
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Glu Arg Asp Lys Phe Asp Asn Lys Thr Val Thr Phe Glu Glu His Ile
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Lys Glu Glu His Asn Met Trp His Tyr Leu Cys Phe Ile Val Leu Val
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Lys Val Lys Asp Ser Thr Glu Tyr Thr Gly Pro Glu Ser Tyr Val Ala
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Ser Gly Gln Leu Ser Glu Leu Lys Asp Gln Met Thr Glu Gln Arg Lys
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                                                2685
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Asn 145	Ala	Met	Arg	Val	Thr 150	Leu	Asp	Glu	Ala	Gly 155	Asn	Glu	Gly	Ser	Trp 160
Phe	Tyr	Ile	Gln	Pro 165	Phe	Tyr	Lys	Leu	Arg 170	Ser	Ile	Gly	Asp	Ser 175	Val
Val	Ile	Gly	Asp 180	Lys	Val	Val	Leu	Asn 185	Pro	Val	Asn	Ala	Gly 190	Gln	Pro
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	210		Val			215					220				
225			Asp		230					235					240
			His	245					250					255	
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		275	Thr				280		-			285			
	290		Cys			295					300				
305	-		Leu		310	_		_		315					320
			Glu	325					330		-			335	
	_		Ser 340	_				345					350		
-		355	Val				360					365			
	370	_	Pro			375					380				
385			Val		390					395					400
			Ile Thr	405					410					415	
			420 Ser					425					430		
		435	Val				440					445			
	450					455					460				Leu
465	1111	GIII	Abii	OIU	470	nr 9	JCI	vai	1111	475	Deu	БСС	Olu	пор	480
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Val	Val	Phe	Ser 500	Lys	Pro	Asn	Arg	Glu 505	Arg	Gln	Lys	Leu	Met 510	Arg	Glu
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Asp	Cys 530	Gly	Asp	Gly	Pro	Met 535	Leu	Arg	Leu	Glu	Glu 540	Leu	Gly	Asp	Gln
Arg 545	His	Ala	Pro	Phe	Arg 550	His	Ile	Cys	Arg	Leu 555	Cys	Tyr	Arg	Val	Leu 560
Arg	His	Ser	Gln	Gln 565	Asp	Tyr	Arg	Lys	Asn 570	Gln	Glu	Tyr	İle	Ala 575	Lys
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Val Lys Tyr Ala Arg Leu Trp Ser Glu Ile Pro Ser Glu Ile Ala Ile
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Cys Gln Arg Phe Pro Phe Ser Asp Lys Glu Lys Asn Lys Leu Thr Phe
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Glu Val Val Asn Leu Ala Arg Asn Leu Ile Tyr Phe Gly Phe Tyr Asn
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Phe Gly Gly Ser Glu Glu Asn Thr Pro Leu Asp Leu Asp Asp His Gly
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Gln Gly Pro Asp	Glu Pro Met		Ser Gly Glu Asn Glu His 1150
			Leu Lys His Glu Ser Thr 1165
	Tyr Arg Val	Val Lys Glu	Ile Leu Ile Arg Leu Ser
			Arg Lys Ser Arg Lys Gln 1195 1200
		Met Gly Ala	His Ala Val Val Leu Glu
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	Ala Leu Leu 125	His Lys His	Ile Asn Leu Phe Leu Asn 1260
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Gln Thr Ile Val 1315	Lys Ala Glu	Gly Lys Phe 1320	Ile Lys Lys Cys Gln Asp 1325
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Tyr Asn Asp Arg 1345	Ala Ser Phe	Gln Thr Leu	Ile Gln Met Met Arg Ser 1355 1360
Glu Arg Asp Arg		Asn Ser Pro	Leu Phe Met Tyr His Ile 0 1375
His Leu Val Glu 1380	Leu Leu Ala	Val Cys Thr 1385	Glu Gly Lys Asn Val Tyr 1390
Thr Glu Ile Lys 1395	Cys Asn Ser	Leu Leu Pro 1400	Leu Asp Asp Ile Val Arg 1405
Val Val Thr His 1410	Glu Asp Cys 141		Val Lys Ile Ala Tyr Ile 1420
Asn Phe Leu Asn 1425	His Cys Tyr 1430	Val Asp Thr	Glu Val Glu Met Lys Glu 1435 1440
Ile Tyr Thr Ser	Asn His Met 1445	Trp Lys Leu 145	Phe Glu Asn Phe Leu Val 0 1455
Asp Ile Cys Arg		Asn Thr Ser 1465	Asp Arg Lys His Ala Asp 1470
Ser Val Leu Glu 1475	Lys Tyr Val	Thr Glu Ile 1480	Val Met Ser Ile Val Thr 1485
Thr Phe Phe Ser	Ser Pro Phe 149	-	Ser Thr Thr Leu Gln Thr 1500
Arg Gln Pro Val 1505	Phe Val Gln 1510	Leu Leu Gln	Gly Val Phe Arg Val Tyr 1515 1520
His Cys Asn Trp	Leu Met Pro 1525	Ser Gln Lys 153	Ala Ser Val Glu Ser Cys 0 1535
Ile Arg Val Leu 1540	_	Ala Lys Ser 1545	Arg Ala Ile Ala Ile Pro 1550
Val Asp Leu Asp 1555	Ser Gln Val	Asn Asn Leu 1560	Phe Leu Lys Ser His Asn 1565
Ile Val Gln Lys 1570	Thr Ala Met		Leu Ser Ala Arg Asn Ala 1580

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Ala Arg Arg Asp Glu Val Leu Ala Ala Ser Arg Asp Tyr Arg Asn Ile
                  1590
                                    1595
Ile Glu Arg Leu Gln Asp Ile Val Ser Ala Leu Glu Asp Arg Leu Arg
              1605
                                1610
Pro Leu Val Gln Ala Glu Leu Ser Val Leu Val Asp Val Leu His Arg
          1620
                             1625
Pro Glu Leu Leu Phe Pro Glu Asn Thr Asp Ala Arg Arg Lys Cys Glu
                         1640
                                           1645
Ser Gly Gly Phe Ile Cys Lys Leu Ile Lys His Thr Lys Gln Leu Leu
                     1655
                                        1660
Glu Glu Asn Glu Glu Lys Leu Cys Ile Lys Val Leu Gln Thr Leu Arg
                  1670
                                    1675
Glu Met Met Thr Lys Asp Arg Gly Tyr Gly Glu Lys Gln Ile Ser Ile
                                1690
              1685
Asp Glu Leu Glu Asn Ala Glu Leu Pro Gln Pro Pro Glu Ala Glu Asn
           1700
                             1705
Ser Thr Glu Glu Leu Glu Pro Ser Pro Pro Leu Arg Gln Leu Glu Asp
       1715
                         1720
                                           1725
His Lys Arg Gly Glu Ala Leu Arg Gln Ile Leu Val Asn Arg Tyr Tyr
   1730
                     1735
                                        1740
Gly Asn Ile Arg Pro Ser Gly Arg Arg Glu Glu Leu Thr Ser Phe Gly
                  1750
                                    1755
Asn Gly Pro Leu Ser Pro Gly Gly Pro Ser Lys Pro Gly Gly Gly Gly
              1765
                                1770
Gly Gly Pro Gly Ser Gly Ser Thr Ser Arg Gly Glu Met Ser Leu Ala
          1780
                  1785
                                               1790
Glu Val Gln Cys His Leu Asp Lys Glu Gly Ala Ser Asn Leu Val Ile
                         1800
                                           1805
Asp Leu Ile Met Asn Ala Ser Ser Asp Arg Val Phe His Glu Ser Ile
                     1815
                                       1820
Leu Leu Ala Ile Ala Leu Leu Glu Gly Gly Asn Thr Thr Ile Gln His
                 1830
                                   1835
Ser Phe Phe Cys Arg Leu Thr Glu Asp Lys Lys Ser Glu Lys Phe Phe
                                1850
              1845
Lys Val Phe Tyr Asp Arg Met Lys Val Ala Gln Glu Ile Lys Ala
          1860
                           1865
                                              1870
Thr Val Thr Val Asn Thr Ser Asp Leu Gly Asn Lys Lys Asp Asp
       1875
                        1880
                                          1885
Glu Val Asp Arg Asp Ala Pro Ser Arg Lys Lys Ala Lys Glu Pro Thr
                     1895
                                       1900
Thr Gln Ile Thr Glu Glu Val Arg Asp Gln Leu Leu Glu Ala Ser Ala
                 1910
                                   1915
Ala Thr Arg Lys Ala Phe Thr Thr Phe Arg Arg Glu Ala Asp Pro Asp
              1925
                                1930
Asp His Tyr Gln Ser Gly Glu Gly Thr Gln Ala Thr Thr Asp Lys Ala
          1940
                            1945
Lys Asp Asp Leu Glu Met Ser Ala Val Ile Thr Ile Met Gln Pro Ile
       1955
                        1960
Leu Arg Phe Leu Gln Leu Cys Glu Asn His Asn Arg Asp Leu Gln
                     1975
Asn Phe Leu Arg Cys Gln Asn Asn Lys Thr Asn Tyr Asn Leu Val Cys
                 1990
                                   1995
Glu Thr Leu Gln Phe Leu Asp Cys Ile Cys Gly Ser Thr Thr Gly Gly
                                2010
Leu Gly Leu Leu Gly Leu Tyr Ile Asn Glu Lys Asn Val Ala Leu Ile
                            2025
Asn Gln Thr Leu Glu Ser Leu Thr Glu Tyr Cys Gln Gly Pro Cys His
                         2040
                                           2045
Glu Asn Gln Asn Cys Ile Ala Thr His Glu Ser Asn Gly Ile Asp Ile
               2055
                                       2060
Ile Thr Ala Leu Ile Leu Asn Asp Ile Asn Pro Leu Gly Lys Lys Arg
```

2065	2	070			2075			2080
Met Asp Leu			Lys A		Ala S	er Lys	Leu Leu 2099	Leu
Ala Ile Met	Glu Ser A 2100	rg His					Arg Ile 2110	Leu
Tyr Asn Met 2115	_		Leu V 2120	al Glu	Val I	le Lys 2125	_	Tyr
Met Gln Gly 2130	Glu Val G	lu Phe 2135		Asp Gly		sn Gly 140	Glu Asp	Gly
Ala Ala Ser 2145	2	150	_		2155	_		2160
Gln Leu Ala	2165	-		2170	)		217	5
Gly Gln Val	2180		2	2185			2190	
Ala Gln Ile 2195	;		2200			2205	;	
Phe Pro Val 2210		2215			2	220		
Arg Ile Tyr 2225	2	230			2235			2240
Asp Phe Phe	2245			2250	)		225	5
Lys Lys Leu	2260		2	2265			2270	
Ser Phe Trp 2275	i		2280			2285	;	
Leu Val Ala 2290		2295			2	300	_	
Glu Pro His	2	310		_	2315			2320
Ala Ile Val	2325		_	2330	)		233	5
Ala Ser Thr	2340		2	2345			2350	
Leu Phe Leu 2355	;		2360			2365	;	
Met Ser Phe 2370		2375			2	380		
Met Val Leu 2385		390 390	Leu T	ryr His	Leu L 2395	eu Tyr	Leu Leu	11e 2400
Cys Ala Met	Gly Leu P 2405	he Val	His G	Glu Phe 2410		yr Ser	Leu Leu 241	
Phe Asp Leu	_	rg Glu			Leu A	sn Val	_	Ser
Val Thr Arg		arg Pro	Ile I	2425 [le Leu	Thr A			Leu
2435 Ile Leu Val		he Ser 2455		Val Gly	_			Asp
2450 Asp Phe Ile 2465				Leu Pro	Asn G	460 lu Thr	Ala Gly	
Glu Thr Gly	Glu Ser L		Asn A			yr Ser		
Arg Val Glu	2485 Thr Gly G 2500	Slu Asn	_	2490 Thr Ser 2505		la Pro	249! Lys Glu 2510	
Leu Leu Pro 2515	Val Glu G				Lys G	lu His 2525	Thr Cys	Glu
Thr Leu Leu 2530			Thr V	/al Leu				Ser
Gly Gly Gly 2545	_			Arg Lys			Glu Glu	Pro 2560

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Leu Phe Ala Ala Arq Val Ile Tyr Asp Leu Leu Phe Phe Met Val
                                   2570
Ile Ile Ile Val Leu Asn Leu Ile Phe Gly Val Ile Ile Asp Thr Phe
                               2585
Ala Asp Leu Arg Ser Glu Lys Gln Lys Lys Glu Glu Ile Leu Lys Thr
       2595
                           2600
                                               2605
Thr Cys Phe Ile Cys Gly Leu Glu Arg Asp Lys Phe Asp Asn Lys Thr
                       2615
                                           2620
Val Thr Phe Glu Glu His Ile Lys Glu Glu His Asn Met Trp His Tyr
                   2630
                                       2635
Leu Cys Phe Ile Val Leu Val Lys Val Lys Asp Ser Thr Glu Tyr Thr
               2645
                                   2650
Gly Pro Glu Ser Tyr Val Ala Glu Met Ile Arg Glu Arg Asn Leu Asp
                               2665
Trp Phe Pro Arg Met Arg Ala Met Ser Leu Val Ser Ser Asp Ser Glu
                           2680
Gly Glu Gln Asn Glu Leu Arg Asn Leu Gln Glu Lys Leu Glu Ser Thr
                      2695
                                          2700
Met Lys Leu Val Thr Asn Leu Ser Gly Gln Leu Ser Glu Leu Lys Asp
                   2710
                                      2715
Gln Met Thr Glu Gln Arg Lys Gln Lys Gln Arg Ile Gly Leu Leu Gly
               2725
                                   2730
His Pro Pro His Met Asn Val Asn Pro Gln Gln Pro Ala
           2740
                               2745
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<210> 11

<211> 2710

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:/note = synthetic construct

<400> 11

Met Ser Asp Lys Met Ser Ser Phe Leu His Ile Gly Asp Ile Cys Ser 10 Leu Tyr Ala Glu Gly Ser Thr Asn Gly Phe Ile Ser Thr Leu Gly Leu 20 25 Val Asp Asp Arg Cys Val Val Gln Pro Glu Ala Gly Asp Leu Asn Asn 40 Pro Pro Lys Lys Phe Arg Asp Cys Leu Phe Lys Leu Cys Pro Met Asn Arg Tyr Ser Ala Gln Lys Gln Phe Trp Lys Ala Ala Lys Pro Gly Ala 70 75 Asn Ser Thr Thr Asp Ala Val Leu Leu Asn Lys Leu His His Ala Ala 85 90 Asp Leu Glu Lys Lys Gln Asn Glu Thr Glu Asn Arg Lys Leu Leu Gly 105 Thr Val Ile Gln Tyr Gly Asn Val Ile Gln Leu Leu His Leu Lys Ser 120 Asn Lys Tyr Leu Thr Val Asn Lys Arg Leu Pro Ala Leu Leu Glu Lys 135 140 Asn Ala Met Arg Val Thr Leu Asp Glu Ala Gly Asn Glu Gly Ser Trp 150 155 Phe Tyr Ile Gln Pro Phe Tyr Lys Leu Arg Ser Ile Gly Asp Ser Val 165 170 Val Ile Gly Asp Lys Val Val Leu Asn Pro Val Asn Ala Gly Gln Pro 180 185 Leu His Ala Ser Ser His Gln Leu Val Asp Asn Pro Gly Cys Asn Glu

		195					200					205			
Val	Asn 210	Ser	Val	Asn	Cys	Asn 215		Ser	Trp	Lys	Ile 220		Leu	Phe	Met
Lys 225		Ser	Asp	Asn	Lys 230	Asp	Asp	Ile	Leu	Lys 235		Gly	Asp	Val	Val 240
Arg	Leu	Phe	His	Ala 245	Glu	Gln	Glu	Lys	Phe 250		Thr	Cys	Asp	Glu 255	
Arg	Lys	Lys	Gln 260	His	Val	Phe	Leu	Arg 265		Thr	Gly	Arg	Gln 270		Ala
Thr	Ser	Ala 275	Thr	Ser	Ser	Lys	Ala 280		Trp	Glu	Val	Glu 285		Val	Gln
His	Asp 290	Pro	Cys	Arg	Gly	Gly 295	Ala	Gly	Tyr	Trp	Asn 300		Leu	Phe	Arg
Phe 305	Lys	His	Leu	Ala	Thr 310	Gly	His	Tyr	Leu	Ala 315	Ala	Glu	Val	Asp	Pro 320
Asp	Phe	Glu	Glu	Glu 325	Cys	Leu	Glu	Phe	Gln 330	Pro	Ser	Val	Asp	Pro 335	Asp
			340			Arg		345					350		
		355				Pro	360					365			
	370					Leu 375					380				
385					390	Arg				395					400
				405		Asp			410					415	
			420			Leu		425					430		
		435				Glu	440					445			_
	450					Ser 455				_	460			_	
465					470	Arg				475					480
				485		Gly			490					495	
			500			Asn		505					510		
		515				Ile	520					525			
	530					Met 535					540				
Arg 545	Hls	Ala	Pro	Phe	Arg 550	His	Ile	Cys	Arg	Leu 555	Cys	Tyr	Arg	Val	Leu 560
Arg	His	Ser	Gln	Gln 565	Asp	Tyr	Arg	Lys	Asn 570	Gln	Glu	Tyr	Ile	Ala 575	
Gln	Phe	Gly	Phe 580	Met	Gln	Lys	Gln	Ile 585	Gly	Tyr	Asp	Val	Leu 590	Ala	Glu
Asp	Thr	Ile 595	Thr	Ala	Leu	Leu	His 600	Asn	Asn	Arg	Lys	Leu 605	Leu	Glu	Lys
His	Ile 610	Thr	Ala	Ala	Glu	Ile 615	Asp	Thr	Phe	Val	Ser 620	Leu	Val	Arg	Lys
625					630	Leu				635					640
				645		Val			650					655	
			660			Asp		665				_	670		
Ser	Arg	Phe 675	Glu	Phe	Glu	Gly	Val 680	Ser	Thr	Gly	Glu	Asn 685	Ala	Leu	Glu

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Ala Gly Glu Asp Glu Glu Glu Val Trp Leu Phe Trp Arg Asp Ser Asn
                       695
                                          700
Lys Glu Ile Arg Ser Lys Ser Val Arg Glu Leu Ala Gln Asp Ala Lys
                   710
                                      715
Glu Gly Gln Lys Glu Asp Arg Asp Val Leu Ser Tyr Tyr Arg Tyr Gln
               725
                                   730
Leu Asn Leu Phe Ala Arg Met Cys Leu Asp Arg Gln Tyr Leu Ala Ile
                              745
Asn Glu Ile Ser Gly Gln Leu Asp Val Asp Leu Ile Leu Arg Cys Met
                           760
Ser Asp Glu Asn Leu Pro Tyr Asp Leu Arg Ala Ser Phe Cys Arg Leu
                       775
                                          780
Met Leu His Met His Val Asp Arg Asp Pro Gln Glu Gln Val Thr Pro
                   790
                                      795
Val Lys Tyr Ala Arg Leu Trp Ser Glu Ile Pro Ser Glu Ile Ala Ile
              805
                                  810
Asp Asp Tyr Asp Ser Ser Gly Ala Ser Lys Asp Glu Ile Lys Glu Arg
           820
                              825
                                                  830
Phe Ala Gln Thr Met Glu Phe Val Glu Glu Tyr Leu Arg Asp Val Val
                          840
                                    845
Cys Gln Arg Phe Pro Phe Ser Asp Lys Glu Lys Asn Lys Leu Thr Phe
                      855
                                          860
Glu Val Val Asn Leu Ala Arg Asn Leu Ile Tyr Phe Gly Phe Tyr Asn
                  870
                                     . 875
Phe Ser Asp Leu Leu Arg Leu Thr Lys Ile Leu Leu Ala Ile Leu Asp
              885
                                  890
Cys Val His Val Thr Thr Ile Phe Pro Ile Ser Lys Met Thr Lys Gly
           900
                              905 .
Glu Glu Asn Lys Gly Ser Asn Val Met Arg Ser Ile His Gly Val Gly
                          920
Glu Leu Met Thr Gln Val Val Leu Arg Gly Gly Phe Leu Pro Met
                      935
Thr Pro Met Ala Ala Pro Glu Gly Asn Val Lys Gln Ala Glu Pro
                  950
                                      955
Glu Lys Glu Asp Ile Met Val Met Asp Thr Lys Leu Lys Ile Ile Glu
                                  970
Ile Leu Gln Phe Ile Leu Asn Val Arg Leu Asp Tyr Arg Ile Ser Cys
                              985
Leu Leu Cys Ile Phe Lys Arg Glu Phe Asp Glu Ser Asn Ser Gln Ser
                          1000
Ser Glu Thr Ser Ser Gly Asn Ser Ser Gln Glu Gly Pro Ser Asn Val
                      1015
                                          1020
Pro Gly Ala Leu Asp Phe Glu His Ile Glu Glu Gln Ala Glu Gly Ile
                  1030
                                      1035
Phe Gly Gly Ser Glu Glu Asn Thr Pro Leu Asp Leu Asp Asp His Gly
               1045
                                  1050
Gly Arg Thr Phe Leu Arg Val Leu Leu His Leu Thr Met His Asp Tyr
                              1065
           1060
Pro Pro Leu Val Ser Gly Ala Leu Gln Leu Leu Phe Arg His Phe Ser
                          1080
                                             1085
Gln Arg Gln Glu Val Leu Gln Ala Phe Lys Gln Val Gln Leu Leu Val
                      1095
                                          1100
Thr Ser Gln Asp Val Asp Asn Tyr Lys Gln Ile Lys Gln Asp Leu Asp
                  1110
                                      1115
Gln Leu Arg Ser Ile Val Glu Lys Ser Glu Leu Trp Val Tyr Lys Gly
               1125
                                  1130
Gln Gly Pro Asp Glu Pro Met Asp Gly Ala Ser Gly Glu Asn Glu His
           1140
                              1145
Lys Lys Thr Glu Glu Gly Thr Ser Lys Pro Leu Lys His Glu Ser Thr
                           1160 1165
Ser Ser Tyr Asn Tyr Arg Val Val Lys Glu Ile Leu Ile Arg Leu Ser
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1170	117	5	1180	)
Lys Leu Cys Val 1185	Gln Glu Ser 1190		Arg Lys	Ser Arg Lys Gln 1200
Gln Gln Arg Leu			His Ala	Val Val Leu Glu 1215
Leu Leu Gln Ile 122	Pro Tyr Glu			Lys Met Gln Glu 1230
			Asn Phe	Cys Ala Gly Asn
	Ala Leu Leu 125	His Lys His	Ile Asn 126	Leu Phe Leu Asn
Pro Gly Ile Leu 1265				Phe Met Asn Asn 1280
Phe Gln Leu Cys	Ser Glu Ile 1285	Asn Glu Arg		Gln His Phe Val 1295
His Cys Ile Glu 130	•	Arg Asn Val	Gln Tyr	Ile Lys Phe Leu 1310
Gln Thr Ile Val 1315	Lys Ala Glu	Gly Lys Phe	: Ile Lys	Lys Cys Gln Asp 1325
Met Val Met Ala 1330	Glu Leu Val 133	_	Glu Asp	Val Leu Val Phe
Tyr Asn Asp Arg 1345	Ala Ser Phe 1350	Gln Thr Lev	Ile Gln 1355	Met Met Arg Ser 1360
Glu Arg Asp Arg	Met Asp Glu 1365	Asn Ser Pro		Met Tyr His Ile 1375
His Leu Val Glu 138		Val Cys Thr 1385	Glu Gly	Lys Asn Val Tyr 1390
Thr Glu Ile Lys 1395	Cys Asn Ser	Leu Leu Pro 1400	Leu Asp	Asp Ile Val Arg 1405
1410	· 141	5	142	
1425	1430	_	1435	Glu Met Lys Glu 1440
•	1445	145	0	Asn Phe Leu Val 1455
146	0	1465		Lys His Ala Asp 1470
1475		1480		Ser Ile Val Thr 1485
1490	149	5	150	
1505	1510		1515	Phe Arg Val Tyr 1520
-	1525	153	0	Val Glu Ser Cys 1535
154	0	1545	_	Ile Ala Ile Pro 1550
1555		1560		Lys Ser His Asn 1565
1570	157	5	158	
Ala Arg Arg Asp	Asp Val Leu	Ala Ala Ser	Arg Asp	Tyr Arg Asn Ile
1585	1590		1595	1600
Ile Glu Arg Leu	1590 Gln Asp Ile 1605	161	Leu Glu .0	Asp Arg Leu Arg 1615
Ile Glu Arg Leu Pro Leu Val Gln 162	1590 Gln Asp Ile 1605 Ala Glu Leu 0	161 Ser Val Leu 1625	Leu Glu .0 Val Asp	Asp Arg Leu Arg 1615 Val Leu His Arg 1630
Pro Leu Val Gln 162 Pro Glu Leu Leu 1635	1590 Gln Asp Ile 1605 Ala Glu Leu O Phe Pro Glu	Ser Val Let 1625 Asn Thr Asp 1640	Leu Glu .0 Val Asp	Asp Arg Leu Arg 1615 Val Leu His Arg

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Glu Glu Asn Glu Glu Lys Leu Cys Ile Lys Val Leu Gln Thr Leu Arg
                  1670
                                     1675
Glu Met Met Thr Lys Asp Arg Gly Tyr Gly Glu Lys Gly Glu Ala Leu
              1685
                                 1690
Arg Gln Ile Leu Val Asn Arg Tyr Tyr Gly Asn Ile Arg Pro Ser Gly
           1700
                              1705
                                                1710
Arg Arg Glu Asp Leu Thr Ser Phe Gly Asn Gly Pro Leu Ser Pro Gly
       1715
                         1720
                                             1725
Gly Pro Ser Lys Pro Gly Gly Gly Gly Gly Pro Gly Ser Gly Ser
                                         1740
                     1735
Thr Ser Arg Gly Glu Met Ser Leu Ala Glu Val Gln Cys His Leu Asp
                                     1755
                  1750
Lys Glu Gly Ala Ser Asn Leu Val Ile Asp Leu Ile Met Asn Ala Ser
              1765
                                 1770
Ser Asp Arg Val Phe His Glu Ser Ile Leu Leu Ala Ile Ala Leu Leu
          1780
                             1785
Glu Gly Gly Asn Thr Thr Ile Gln His Ser Phe Phe Cys Arg Leu Thr
                         1800
Glu Asp Lys Lys Ser Glu Lys Phe Phe Lys Val Phe Tyr Asp Arg Met
                     1815
                                        1820
Lys Val Ala Gln Glu Ile Lys Ala Thr Val Thr Val Asn Thr Ser
                  1830
                                     1835 1840
Asp Leu Gly Asn Lys Lys Asp Asp Glu Val Asp Arg Asp Ala Pro
              1845
                                1850
Ser Arg Lys Lys Ala Lys Glu Pro Thr Thr Gln Ile Thr Glu Glu Val
                   . 1865
Arg Asp Gln Leu Leu Glu Ala Ser Ala Ala Thr Arg Lys Ala Phe Thr
                         1880
Thr Phe Arg Arg Glu Ala Asp Pro Asp Asp His Tyr Gln Ser Gly Glu
                     1895
                                        1900
Gly Thr Gln Ala Thr Thr Asp Lys Ala Lys Asp Asp Leu Glu Met Ser
                  1910
                                    1915
Ala Val Ile Thr Ile Met Gln Pro Ile Leu Arg Phe Leu Gln Leu Leu
              1925
                                 1930
Cys Glu Asn His Asn Arg Asp Leu Gln Asn Phe Leu Arg Cys Gln Asn
          1940
                             1945
                                                1950
Asn Lys Thr Asn Tyr Asn Leu Val Cys Glu Thr Leu Gln Phe Leu Asp
                         1960
                                            1965
Cys Ile Cys Gly Ser Thr Thr Gly Gly Leu Gly Leu Gly Leu Tyr
                      1975
                                         1980
Ile Asn Glu Lys Asn Val Ala Leu Ile Asn Gln Thr Leu Glu Ser Leu
                  1990
                                     1995
Thr Glu Tyr Cys Gln Gly Pro Cys His Glu Asn Gln Asn Cys Ile Ala
              2005
                                 2010
Thr His Glu Ser Asn Gly Ile Asp Ile Ile Thr Ala Leu Ile Leu Asn
                             2025
          2020
Asp Ile Asn Pro Leu Gly Lys Lys Arg Met Asp Leu Val Leu Glu Leu
                         2040
                                             2045
Lys Asn Asn Ala Ser Lys Leu Leu Leu Ala Ile Met Glu Ser Arg His
                      2055
                                         2060
Asp Ser Glu Asn Ala Glu Arg Ile Leu Tyr Asn Met Arg Pro Lys Glu
                  2070
                                     2075
Leu Val Glu Val Ile Lys Lys Ala Tyr Met Gln Gly Glu Val Glu Phe
              2085
                                 2090
Glu Asp Gly Glu Asn Gly Glu Asp Gly Ala Ala Ser Pro Arg Asn Val
           2100
                             2105
Gly His Asn Ile Tyr Ile Leu Ala His Gln Leu Ala Arg His Asn Lys
                         2120
Glu Leu Gln Thr Met Leu Lys Pro Gly Gly Gln Val Asp Gly Asp Glu
            2135
                                         2140
Ala Leu Glu Phe Tyr Ala Lys His Thr Ala Gln Ile Glu Ile Val Arg
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2145
                2150
                                2155
Leu Asp Arg Thr Met Glu Gln Ile Val Phe Pro Val Pro Ser Ile Cys
             2165
                             2170
Glu Phe Leu Thr Lys Glu Ser Lys Leu Arg Ile Tyr Tyr Thr Thr Glu
                          2185
Arg Asp Glu Gln Gly Ser Lys Ile Asn Asp Phe Phe Leu Arg Ser Glu
                      2200
Asp Leu Phe Asn Glu Met Asn Trp Gln Lys Lys Leu Arg Ala Gln Pro
  2210 2215
                                   2220
Val Leu Tyr Trp Cys Ala Arg Asn Met Ser Phe Trp Ser Ser Ile Ser
               2230
                                 2235
Phe Asn Leu Ala Val Leu Met Asn Leu Leu Val Ala Phe Phe Tyr Pro
             2245
                              2250
Phe Lys Gly Val Arg Gly Gly Thr Leu Glu Pro His Trp Ser Gly Leu
          2260
                          2265
Leu Trp Thr Ala Met Leu Ile Ser Leu Ala Ile Val Ile Ala Leu Pro
                       2280
Lys Pro His Gly Ile Arg Ala Leu Ile Ala Ser Thr Ile Leu Arg Leu
                    2295
Ile Phe Ser Val Gly Leu Gln Pro Thr Leu Phe Leu Leu Gly Ala Phe
                2310
                              2315
Asn Val Cys Asn Lys Ile Ile Phe Leu Met Ser Phe Val Gly Asn Cys
             2325
                             2330
Gly Thr Phe Thr Arg Gly Tyr Arg Ala Met Val Leu Asp Val Glu Phe
          2340
                          2345 2350
Leu Tyr His Leu Leu Tyr Leu Leu Ile Cys Ala Met Gly Leu Phe Val
      2355 2360 2365
His Glu Phe Phe Tyr Ser Leu Leu Leu Phe Asp Leu Val Tyr Arg Glu
                                   2380
                   2375
Glu Thr Leu Leu Asn Val Ile Lys Ser Val Thr Arg Asn Gly Arg Pro
                                 2395
                2390
Ile Ile Leu Thr Ala Ala Leu Ala Leu Ile Leu Val Tyr Leu Phe Ser
                             2410
Ile Val Gly Tyr Leu Phe Phe Lys Asp Phe Ile Leu Glu Val Asp
                        2425
Arg Leu Pro Asn Glu Thr Ala Gly Pro Glu Thr Gly Glu Ser Leu Ala
                       2440
Asn Asp Phe Leu Tyr Ser Asp Val Cys Arg Val Glu Thr Gly Glu Asn
                        2460
                2455
Cys Thr Ser Pro Ala Pro Lys Glu Glu Leu Leu Pro Val Glu Glu Thr
                2470
                              2475
Glu Gln Asp Lys Glu His Thr Cys Glu Thr Leu Leu Met Cys Ile Val
                             2490
Thr Val Leu Ser His Gly Leu Arg Ser Gly Gly Val Gly Asp Val
                          2505
Leu Arg Lys Pro Ser Lys Glu Glu Pro Leu Phe Ala Ala Arg Val Ile
                       2520
Tyr Asp Leu Leu Phe Phe Phe Met Val Ile Ile Val Leu Asn Leu
                   2535
                                   2540
Ile Phe Gly Val Ile Ile Asp Thr Phe Ala Asp Leu Arg Ser Glu Lys
                2550
                                2555 2560
Gln Lys Lys Glu Glu Ile Leu Lys Thr Thr Cys Phe Ile Cys Gly Leu
             2565
                             2570 2575
Glu Arg Asp Lys Phe Asp Asn Lys Thr Val Thr Phe Glu Glu His Ile
         2580 2585 2590
Lys Glu Glu His Asn Met Trp His Tyr Leu Cys Phe Ile Val Leu Val
                      2600 2605
Lys Val Lys Asp Ser Thr Glu Tyr Thr Gly Pro Glu Ser Tyr Val Ala
         2615
Glu Met Ile Arg Glu Arg Asn Leu Asp Trp Phe Pro Arg Met Arg Ala
                2630
                                2635
```

 Met
 Ser
 Leu
 Val
 Ser
 Asp
 Ser
 Glu
 Gly
 Glu
 Asn
 Glu
 Leu
 Arg
 2655

 Asn
 Leu
 Gln
 Glu
 Lys
 Leu
 Glu
 Ser
 Thr
 Met
 Lys
 Leu
 Val
 Thr
 Asn
 Leu
 Thr
 Gln
 Met
 Thr
 Glu
 Gln
 Arg
 Lys
 Leu
 Leu
 Leu
 Leu
 His
 Pro
 His
 Met
 Asn
 Val
 Asn
 Val
 Leu
 <210> 12 <211> 2749 <212> PRT <213> Artificial Sequence <220>

<223> Description of Artificial Sequence:/note = synthetic construct

Met Ser Asp Lys Met Ser Ser Phe Leu His Ile Gly Asp Ile Cys Ser 10 Leu Tyr Ala Glu Gly Ser Thr Asn Gly Phe Ile Ser Thr Leu Gly Leu 2.0 25 Val Asp Asp Arg Cys Val Val Gln Pro Glu Ala Gly Asp Leu Asn Asn 40 Pro Pro Lys Lys Phe Arg Asp Cys Leu Phe Lys Leu Cys Pro Met Asn Arg Tyr Ser Ala Gln Lys Gln Phe Trp Lys Ala Ala Lys Pro Gly Ala 70 Asn Ser Thr Thr Asp Ala Val Leu Leu Asn Lys Leu His His Ala Ala 9.0 Asp Leu Glu Lys Lys Gln Asn Glu Thr Glu Asn Arg Lys Leu Leu Gly 100 105 Thr Val Ile Gln Tyr Gly Asn Val Ile Gln Leu Leu His Leu Lys Ser 120 125 Asn Lys Tyr Leu Thr Val Asn Lys Arg Leu Pro Ala Leu Leu Glu Lys 135 Asn Ala Met Arg Val Thr Leu Asp Glu Ala Gly Asn Glu Gly Ser Trp 150 155 Phe Tyr Ile Gln Pro Phe Tyr Lys Leu Arg Ser Ile Gly Asp Ser Val 170 Val Ile Gly Asp Lys Val Val Leu Asn Pro Val Asn Ala Gly Gln Pro 180 185 Leu His Ala Ser Ser His Gln Leu Val Asp Asn Pro Gly Cys Asn Glu 200 Val Asn Ser Val Asn Cys Asn Thr Ser Trp Lys Ile Val Leu Phe Met 215 Lys Trp Ser Asp Asn Lys Asp Asp Ile Leu Lys Gly Gly Asp Val Val 230 235 Arg Leu Phe His Ala Glu Glu Lys Phe Leu Thr Cys Asp Glu His 250 245 Arg Lys Lys Gln His Val Phe Leu Arg Thr Thr Gly Arg Gln Ser Ala 265 260 Thr Ser Ala Thr Ser Ser Lys Ala Leu Trp Glu Val Glu Val Val Gln 280 285 His Asp Pro Cys Arg Gly Gly Ala Gly Tyr Trp Asn Ser Leu Phe Arg 295 300 Phe Lys His Leu Ala Thr Gly His Tyr Leu Ala Ala Glu Val Asp Pro

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305
                    310
                                        315
Asp Phe Glu Glu Cys Leu Glu Phe Gln Pro Ser Val Asp Pro Asp
                                    330
Gln Asp Ala Ser Arg Ser Arg Leu Arg Asn Ala Gln Glu Lys Met Val
            340
                                345
Tyr Ser Leu Val Ser Val Pro Glu Gly Asn Asp Ile Ser Ser Ile Phe
                            360
Glu Leu Asp Pro Thr Thr Leu Arg Gly Gly Asp Ser Leu Val Pro Arg
                        375
Asn Ser Tyr Val Arg Leu Arg His Leu Cys Thr Asn Thr Trp Val His
                    390
                                        395
Ser Thr Asn Ile Pro Ile Asp Lys Glu Glu Glu Lys Pro Val Met Leu
                                    410
Lys Ile Gly Thr Ser Pro Leu Lys Glu Asp Lys Glu Ala Phe Ala Ile
                                425
Val Pro Val Ser Pro Ala Glu Val Arg Asp Leu Asp Phe Ala Asn Asp
                            440
                                                445
Ala Ser Lys Val Leu Gly Ser Ile Ala Gly Lys Leu Glu Lys Gly Thr
                        455
                                           460
Ile Thr Gln Asn Glu Arg Arg Ser Val Thr Lys Leu Leu Glu Asp Leu
                    470
                                        475
Val Tyr Phe Val Thr Gly Gly Thr Asn Ser Gly Gln Asp Val Leu Glu
                                    490
                485
Val Val Phe Ser Lys Pro Asn Arg Glu Arg Gln Lys Leu Met Arg Glu
                                505
                                                    510
Gln Asn Ile Leu Lys Gln Ile Phe Lys Leu Leu Gln Ala Pro Phe Thr
                            520
                                                525
Asp Cys Gly Asp Gly Pro Met Leu Arg Leu Glu Glu Leu Gly Asp Gln
                        535
                                            540
Arg His Ala Pro Phe Arg His Ile Cys Arg Leu Cys Tyr Arg Val Leu
                    550
                                       555
Arg His Ser Gln Gln Asp Tyr Arg Lys Asn Gln Glu Tyr Ile Ala Lys
                565
                                    570
Gln Phe Gly Phe Met Gln Lys Gln Ile Gly Tyr Asp Val Leu Ala Glu
            580
                                585
Asp Thr Ile Thr Ala Leu Leu His Asn Asn Arg Lys Leu Leu Glu Lys
                            600
                                                605
His Ile Thr Ala Ala Glu Ile Asp Thr Phe Val Ser Leu Val Arg Lys
                        615
                                            620
Asn Arg Glu Pro Arg Phe Leu Asp Tyr Leu Ser Asp Leu Cys Val Ser
                    630
                                        635
Met Asn Lys Ser Ile Pro Val Thr Gln Glu Leu Ile Cys Lys Ala Val
                645
                                    650
Leu Asn Pro Thr Asn Ala Asp Ile Leu Ile Glu Thr Lys Leu Val Leu
            660
                                665
Ser Arg Phe Glu Phe Glu Gly Val Ser Thr Gly Glu Asn Ala Leu Glu
                            680
                                                685
Ala Gly Glu Asp Glu Glu Val Trp Leu Phe Trp Arg Asp Ser Asn
                        695
                                            700
Lys Glu Ile Arg Ser Lys Ser Val Arg Glu Leu Ala Gln Asp Ala Lys
                    710
                                       715
Glu Gly Gln Lys Glu Asp Arg Asp Val Leu Ser Tyr Tyr Arg Tyr Gln
                725
                                   730
Leu Asn Leu Phe Ala Arg Met Cys Leu Asp Arg Gln Tyr Leu Ala Ile
                                745
Asn Glu Ile Ser Gly Gln Leu Asp Val Asp Leu Ile Leu Arg Cys Met
                            760
Ser Asp Glu Asn Leu Pro Tyr Asp Leu Arg Ala Ser Phe Cys Arg Leu
                        775
                                           780
Met Leu His Met His Val Asp Arg Asp Pro Gln Glu Gln Val Thr Pro
                    790
                                        795
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Val Lys Tyr Ala Arg Leu Trp Ser Glu Ile Pro Ser Glu Ile Ala Ile
               805
                                  810
Asp Asp Tyr Asp Ser Ser Gly Ala Ser Lys Asp Glu Ile Lys Glu Arg
          820
                              825
Phe Ala Gln Thr Met Glu Phe Val Glu Glu Tyr Leu Arg Asp Val Val
      835
                          840
                                            845
Cys Gln Arg Phe Pro Phe Ser Asp Lys Glu Lys Asn Lys Leu Thr Phe
                      855
                                         860
Glu Val Val Asn Leu Ala Arg Asn Leu Ile Tyr Phe Gly Phe Tyr Asn
                  870
                                     875
Phe Ser Asp Leu Leu Arg Leu Thr Lys Ile Leu Leu Ala Ile Leu Asp
                                 890
Cys Val His Val Thr Thr Ile Phe Pro Ile Ser Lys Met Thr Lys Gly
                              905
Glu Glu Asn Lys Gly Ser Asn Val Met Arg Ser Ile His Gly Val Gly
                          920
                                            925
Glu Leu Met Thr Gln Val Val Leu Arg Gly Gly Phe Leu Pro Met
                      935
                                         940
Thr Pro Met Ala Ala Ala Pro Glu Gly Asn Val Lys Gln Ala Glu Pro
                  950
                                     955
Glu Lys Glu Asp Ile Met Val Met Asp Thr Lys Leu Lys Ile Ile Glu
                                 970
              965
Ile Leu Gln Phe Ile Leu Asn Val Arg Leu Asp Tyr Arg Ile Ser Cys
          980.
                             985
Leu Leu Cys Ile Phe Lys Arg Glu Phe Asp Glu Ser Asn Ser Gln Ser
                         1000
                                             1005
      995
Ser Glu Thr Ser Ser Gly Asn Ser Ser Gln Glu Gly Pro Ser Asn Val
                      1015
                                         1020
Pro Gly Ala Leu Asp Phe Glu His Ile Glu Glu Gln Ala Glu Gly Ile
                  1030
                                    1035
Phe Gly Gly Ser Glu Glu Asn Thr Pro Leu Asp Leu Asp Asp His Gly
              1045
                       1050
Gly Arg Thr Phe Leu Arg Val Leu Leu His Leu Thr Met His Asp Tyr
           1060
                           1065
                                                1070
Pro Pro Leu Val Ser Gly Ala Leu Gln Leu Leu Phe Arg His Phe Ser
      1075
                         1080
                                          1085
Gln Arg Gln Glu Val Leu Gln Ala Phe Lys Gln Val Gln Leu Leu Val
        1095
                                         1100
Thr Ser Gln Asp Val Asp Asn Tyr Lys Gln Ile Lys Gln Asp Leu Asp
        1110
                                     1115
Gln Leu Arg Ser Ile Val Glu Lys Ser Glu Leu Trp Val Tyr Lys Gly
               1125
                                 1130
Gln Gly Pro Asp Glu Pro Met Asp Gly Ala Ser Gly Glu Asn Glu His
           1140
                              1145
Lys Lys Thr Glu Glu Gly Thr Ser Lys Pro Leu Lys His Glu Ser Thr
       1155
                          1160
                                             1165
Ser Ser Tyr Asn Tyr Arg Val Val Lys Glu Ile Leu Ile Arg Leu Ser
                      1175
                                         1180
Lys Leu Cys Val Gln Glu Ser Ala Ser Val Arg Lys Ser Arg Lys Gln
                  1190
                                     1195
Gln Gln Arg Leu Leu Arg Asn Met Gly Ala His Ala Val Val Leu Glu
              1205
                                 1210
Leu Leu Gln Ile Pro Tyr Glu Lys Ala Glu Asp Thr Lys Met Gln Glu
                             1225
                                      1230
          1220
Ile Met Arg Leu Ala His Glu Phe Leu Gln Asn Phe Cys Ala Gly Asn
                          1240
                                            1245
Gln Gln Asn Gln Ala Leu Leu His Lys His Ile Asn Leu Phe Leu Asn
                      1255
                                        1260
Pro Gly Ile Leu Glu Ala Val Thr Met Gln His Ile Phe Met Asn Asn
     1270 1275
Phe Gln Leu Cys Ser Glu Ile Asn Glu Arg Val Val Gln His Phe Val
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	1285	12	290	1295
His Cys Ile Glu 1300		Arg Asn Va	al Gln Tyr Ile	Lys Phe Leu 1310
Gln Thr Ile Val 1315	Lys Ala Glu	Gly Lys Ph	ne Ile Lys Lys 132	
Met Val Met Ala 1330	Glu Leu Val		ly Glu Asp Val 1340	Leu Val Phe
Tyr Asn Asp Arg 1345	Ala Ser Phe 1350	Gln Thr Le	eu Ile Gln Met 1355	Met Arg Ser 1360
Glu Arg Asp Arg	Met Asp Glu 1365		ro Leu Phe Met 370	Tyr His Ile 1375
His Leu Val Glu 1380		Val Cys Th	nr Glu Gly Lys	Asn Val Tyr 1390
Thr Glu Ile Lys 1395	Cys Asn Ser	Leu Leu Pr 1400	ro Leu Asp Asp 140	
Val Val Thr His 1410	Glu Asp Cys		lu Val Lys Ile 1420	Ala Tyr Ile
Asn Phe Leu Asn 1425	His Cys Tyr 1430	Val Asp Th	nr Glu Val Glu 1435	Met Lys Glu 1440
Ile Tyr Thr Ser				
Asp Ile Cys Arg		Asn Thr Se	er Asp Arg Lys	His Ala Asp 1470
Ser Val Leu Glu 1475	=		le Val Met Ser 148	Ile Val Thr
Thr Phe Phe Ser 1490	Ser Pro Phe	Ser Asp G	ln Ser Thr Thr 1500	Leu Gln Thr
Arg Gln Pro Val 1505	Phe Val Gln 1510	Leu Leu Gl	ln Gly Val Phe 1515	Arg Val Tyr 1520
His Cys Asn Trp	Leu Met Pro 1525		ys Ala Ser Val 530	Glu Ser Cys 1535
Ile Arg Val Leu 1540		Ala Lys Se 1545	er Arg Ala Ile	Ala Ile Pro 1550
Val Asp Leu Asp 1555	Ser Gln Val		eu Phe Leu Lys 156	
Ile Val Gln Lys 1570	Thr Ala Met		rg Leu Ser Ala 1580	Arg Asn Ala
Ala Arg Arg Asp 1585	Asp Val Leu 1590	Ala Ala Se	er Arg Asp Tyr 1595	Arg Asn Ile 1600
Ile Glu Arg Leu	1605	16	510	1615
Pro Leu Val Gln 1620		Ser Val Le 1625	eu Val Asp Val	Leu His Arg 1630
Pro Glu Leu Leu 1635		1640	164	5
Ser Gly Gly Phe 1650	Ile Cys Lys 165		ys His Thr Lys 1660	Gln Leu Leu
Glu Glu Asn Glu 1665	Glu Lys Leu 1670	Cys Ile Ly	ys Val Leu Gln 1675	Thr Leu Arg 1680
Glu Met Met Thr	Lys Asp Arg 1685		ly Glu Lys Gln 590	Ile Ser Ile 1695
Asp Glu Leu Glu 1700		Leu Pro GI	ln Pro Pro Glu	Ala Glu Asn 1710
Ser Thr Glu Glu 1715	Leu Glu Pro	Ser Pro Pr 1720	ro Leu Arg Gln 172	-
His Lys Arg Gly 1730	Glu Ala Leu 173	Arg Gln I		
Gly Asn Ile Arg 1745			lu Asp Leu Thr 1755	Ser Phe Gly 1760
Asn Gly Pro Leu	Ser Pro Gly 1765	_	er Lys Pro Gly 770	Gly Gly Gly 1775

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Gly Gly Pro Gly Ser Gly Ser Thr Ser Arg Gly Glu Met Ser Leu Ala
          1780
                            1785
Glu Val Gln Cys His Leu Asp Lys Glu Gly Ala Ser Asn Leu Val Ile
                        1800
Asp Leu Ile Met Asn Ala Ser Ser Asp Arg Val Phe His Glu Ser Ile
                     1815
                                       1820
Leu Leu Ala Ile Ala Leu Leu Glu Gly Gly Asn Thr Thr Ile Gln His
                 1830
                                   1835
Ser Phe Phe Cys Arg Leu Thr Glu Asp Lys Lys Ser Glu Lys Phe Phe
             1845
                               1850
Lys Val Phe Tyr Asp Arg Met Lys Val Ala Gln Glu Ile Lys Ala
          1860
                 1865
Thr Val Thr Val Asn Thr Ser Asp Leu Gly Asn Lys Lys Lys Asp Asp
                        1880
                                 1885
Glu Val Asp Arg Asp Ala Pro Ser Arg Lys Lys Ala Lys Glu Pro Thr
                    1895
                                      1900
Thr Gln Ile Thr Glu Glu Val Arg Asp Gln Leu Leu Glu Ala Ser Ala
                 1.910
                                  1915
Ala Thr Arg Lys Ala Phe Thr Thr Phe Arg Arg Glu Ala Asp Pro Asp
             1925
                               1930
Asp His Tyr Gln Ser Gly Glu Gly Thr Gln Ala Thr Thr Asp Lys Ala
         1940
                  1945 1950
Lys Asp Asp Leu Glu Met Ser Ala Val Ile Thr Ile Met Gln Pro Ile
                       1960
Leu Arg Phe Leu Gln Leu Leu Cys Glu Asn His Asn Arg Asp Leu Gln
                    1975
                                      1980
Asn Phe Leu Arg Cys Gln Asn Asn Lys Thr Asn Tyr Asn Leu Val Cys
                1990 1995
Glu Thr Leu Gln Phe Leu Asp Cys Ile Cys Gly Ser Thr Thr Gly Gly
             2005
                               2010
Leu Gly Leu Leu Gly Leu Tyr Ile Asn Glu Lys Asn Val Ala Leu Ile
          2020
                           2025
Asn Gln Thr Leu Glu Ser Leu Thr Glu Tyr Cys Gln Gly Pro Cys His
                        2040
                                         2045
Glu Asn Gln Asn Cys Ile Ala Thr His Glu Ser Asn Gly Ile Asp Ile
                    2055
                                      2060
Ile Thr Ala Leu Ile Leu Asn Asp Ile Asn Pro Leu Gly Lys Lys Arg
                2070
                                  2075
Met Asp Leu Val Leu Glu Leu Lys Asn Ala Ser Lys Leu Leu
             2085
                               2090
Ala Ile Met Glu Ser Arg His Asp Ser Glu Asn Ala Glu Arg Ile Leu
          2100
                           2105
                                              2110
Tyr Asn Met Arg Pro Lys Glu Leu Val Glu Val Ile Lys Lys Ala Tyr
      2115
                       2120
                                          2125
Met Gln Gly Glu Val Glu Phe Glu Asp Gly Glu Asn Gly Glu Asp Gly
                    2135
                                       2140
Ala Ala Ser Pro Arg Asn Val Gly His Asn Ile Tyr Ile Leu Ala His
                 2150 2155
Gln Leu Ala Arg His Asn Lys Glu Leu Gln Thr Met Leu Lys Pro Gly
             2165 2170
Gly Gln Val Asp Gly Asp Glu Ala Leu Glu Phe Tyr Ala Lys His Thr
          2180
                            2185
Ala Gln Ile Glu Ile Val Arg Leu Asp Arg Thr Met Glu Gln Ile Val
                        2200
Phe Pro Val Pro Ser Ile Cys Glu Phe Leu Thr Lys Glu Ser Lys Leu
                     2215
                                       2220
Arg Ile Tyr Tyr Thr Glu Arg Asp Glu Gln Gly Ser Lys Ile Asn
              2230
                                  2235
Asp Phe Phe Leu Arg Ser Glu Asp Leu Phe Asn Glu Met Asn Trp Gln
              2245
                    2250
Lys Lys Leu Arg Ala Gln Pro Val Leu Tyr Trp Cys Ala Arg Asn Met
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226	0	2265		2270
Ser Phe Trp Ser 2275	Ser Ile Ser E		Ala Val Leu 2289	Met Asn Leu
Leu Val Ala Phe 2290	Phe Tyr Pro E	Phe Lys Gly	Val Arg Gly 2300	Gly Thr Leu
Glu Pro His Trp 2305	Ser Gly Leu I 2310	_	Ala Met Leu 2315	Ile Ser Leu 2320
Ala Ile Val Ile	Ala Leu Pro I 2325	Lys Pro His 2330		Ala Leu Ile 2335
Ala Ser Thr Ile 234		Ile Phe Ser 2345	Val Gly Leu	Gln Pro Thr 2350
Leu Phe Leu Leu 2355	2	2360	236	5
Met Ser Phe Val 2370	2375		2380	
Met Val Leu Asp 2385	2390		2395	2400
Cys Ala Met Gly	2405	2410	1	2415
Phe Asp Leu Val 242	0	2425		2430
Val Thr Arg Asn 2435	2	2440	2445	5
Ile Leu Val Tyr 2450	2455		2460	
Asp Phe Ile Leu 2465	2470		2475	2480
Glu Thr Gly Glu	2485	2490	•	2495
Arg Val Glu Thr 250	0	2505		2510
Leu Leu Pro Val 2515	2	2520	252	5
Thr Leu Leu Met 2530	2535	e e	2540	_
Gly Gly Gly Val 2545 Leu Phe Ala Ala	2550	_	2555	2560
	Arg var ite i	TAT Wab ren	Leu Phe Phe	Phe Met vai
	2565	2570		2575
Ile Ile Ile Val 258	2565 Leu Asn Leu I 0	Ile Phe Gly 2585	Val Ile Ile	2575 Asp Thr Phe 2590
Ile Ile Ile Val 258 Ala Asp Leu Arg 2595	2565 Leu Asn Leu I O Ser Glu Lys G	Ile Phe Gly 2585 Gln Lys Lys 2600	Val Ile Ile Glu Glu Ile 2609	2575 Asp Thr Phe 2590 Leu Lys Thr
Ile Ile Ile Val 258 Ala Asp Leu Arg 2595 Thr Cys Phe Ile 2610	2565 Leu Asn Leu I O Ser Glu Lys G Cys Gly Leu G 2615	Ile Phe Gly 2585 Gln Lys Lys 2600 Glu Arg Asp	Val Ile Ile Glu Glu Ile 2609 Lys Phe Asp 2620	2575 Asp Thr Phe 2590 Leu Lys Thr  Asn Lys Thr
Ile Ile Ile Val 258 Ala Asp Leu Arg 2595 Thr Cys Phe Ile 2610 Val Thr Phe Glu 2625	2565 Leu Asn Leu I  Ser Glu Lys G  Cys Gly Leu G  2615 Glu His Ile I 2630	Ile Phe Gly 2585 Gln Lys Lys 2600 Glu Arg Asp Lys Glu Glu	Val Ile Ile Glu Glu Ile 260! Lys Phe Asp 2620 His Asn Met 2635	2575 Asp Thr Phe 2590 Leu Lys Thr 5 Asn Lys Thr Trp His Tyr 2640
Ile Ile Ile Val 258 Ala Asp Leu Arg 2595 Thr Cys Phe Ile 2610 Val Thr Phe Glu 2625 Leu Cys Phe Ile	2565 Leu Asn Leu 1 0 Ser Glu Lys 0 Cys Gly Leu 0 2615 Glu His Ile I 2630 Val Leu Val I	Ile Phe Gly 2585 Gln Lys Lys 2600 Glu Arg Asp Lys Glu Glu Lys Val Lys 2650	Val Ile Ile Glu Glu Ile 260! Lys Phe Asp 2620 His Asn Met 2635 Asp Ser Thr	2575 Asp Thr Phe 2590 Leu Lys Thr Asn Lys Thr Trp His Tyr 2640 Glu Tyr Thr 2655
Ile Ile Ile Val 258 Ala Asp Leu Arg 2595 Thr Cys Phe Ile 2610 Val Thr Phe Glu 2625 Leu Cys Phe Ile Gly Pro Glu Ser 266	2565 Leu Asn Leu 1 0 Ser Glu Lys 0 Cys Gly Leu 0 2615 Glu His Ile I 2630 Val Leu Val I 2645 Tyr Val Ala 0	Ile Phe Gly 2585 Gln Lys Lys 2600 Glu Arg Asp Lys Glu Glu Lys Val Lys 2650 Glu Met Ile 2665	Val Ile Ile Glu Glu Ile 260! Lys Phe Asp 2620 His Asn Met 2635 Asp Ser Thr Arg Glu Arg	2575 Asp Thr Phe 2590 Leu Lys Thr  Asn Lys Thr  Trp His Tyr 2640 Glu Tyr Thr 2655 Asn Leu Asp 2670
Ile Ile Ile Val 258 Ala Asp Leu Arg 2595 Thr Cys Phe Ile 2610 Val Thr Phe Glu 2625 Leu Cys Phe Ile Gly Pro Glu Ser 266 Trp Phe Pro Arg 2675	2565 Leu Asn Leu I 0 Ser Glu Lys G 2615 Glu His Ile I 2630 Val Leu Val I 2645 Tyr Val Ala G 0 Met Arg Ala M	Ile Phe Gly 2585 Gln Lys Lys 2600 Glu Arg Asp Lys Glu Glu Lys Val Lys 2650 Glu Met Ile 2665 Met Ser Leu 2680	Val Ile Ile Glu Glu Ile 260! Lys Phe Asp 2620 His Asn Met 2635 Asp Ser Thr Arg Glu Arg Val Ser Ser 268!	2575 Asp Thr Phe 2590 Leu Lys Thr 5 Asn Lys Thr Trp His Tyr 2640 Glu Tyr Thr 2655 Asn Leu Asp 2670 Asp Ser Glu
Ile Ile Ile Val 258 Ala Asp Leu Arg 2595 Thr Cys Phe Ile 2610 Val Thr Phe Glu 2625 Leu Cys Phe Ile Gly Pro Glu Ser 266 Trp Phe Pro Arg 2675 Gly Glu Gln Asn 2690	2565 Leu Asn Leu I 0 Ser Glu Lys G 2615 Glu His Ile I 2630 Val Leu Val I 2645 Tyr Val Ala G 0 Met Arg Ala M 2695	Ile Phe Gly 2585 Gln Lys Lys 2600 Glu Arg Asp Lys Glu Glu Lys Val Lys 2650 Glu Met Ile 2665 Met Ser Leu 2680 Asn Leu Gln	Val Ile Ile Glu Glu Ile 260! Lys Phe Asp 2620 His Asn Met 2635 Asp Ser Thr Arg Glu Arg Val Ser Ser 268! Glu Lys Leu 2700	2575 Asp Thr Phe 2590 Leu Lys Thr 5 Asn Lys Thr Trp His Tyr 2640 Glu Tyr Thr 2655 Asn Leu Asp 2670 Asp Ser Glu 5 Glu Ser Thr
Ile Ile Ile Val 258 Ala Asp Leu Arg 2595 Thr Cys Phe Ile 2610 Val Thr Phe Glu 2625 Leu Cys Phe Ile Gly Pro Glu Ser 266 Trp Phe Pro Arg 2675 Gly Glu Gln Asn 2690 Met Lys Leu Val	2565 Leu Asn Leu I  Ser Glu Lys G  Cys Gly Leu G  2615 Glu His Ile I  2630 Val Leu Val I 2645 Tyr Val Ala G  Met Arg Ala M  2695 Thr Asn Leu S	Ile Phe Gly 2585 Gln Lys Lys 2600 Glu Arg Asp Lys Glu Glu Lys Val Lys 2650 Glu Met Ile 2665 Met Ser Leu 2680 Asn Leu Gln	Val Ile Ile Glu Glu Ile 2609 Lys Phe Asp 2620 His Asn Met 2635 Asp Ser Thr Arg Glu Arg Val Ser Ser 2689 Glu Lys Leu 2700 Leu Ser Glu 2715	2575 Asp Thr Phe 2590 Leu Lys Thr  Asn Lys Thr  Trp His Tyr 2640 Glu Tyr Thr 2655 Asn Leu Asp 2670 Asp Ser Glu  Glu Ser Thr  Leu Lys Asp 2720
Ile Ile Ile Val 258 Ala Asp Leu Arg 2595 Thr Cys Phe Ile 2610 Val Thr Phe Glu 2625 Leu Cys Phe Ile Gly Pro Glu Ser 266 Trp Phe Pro Arg 2675 Gly Glu Gln Asn 2690 Met Lys Leu Val	2565 Leu Asn Leu I 0 Ser Glu Lys G 2615 Glu His Ile I 2630 Val Leu Val I 2645 Tyr Val Ala G 0 Met Arg Ala M 2695 Thr Asn Leu S 2710 Gln Arg Lys G	Ile Phe Gly 2585 Gln Lys Lys 2600 Glu Arg Asp Lys Glu Glu Lys Val Lys 2650 Glu Met Ile 2665 Met Ser Leu 2680 Asn Leu Gln Ser Gly Gln Gln Lys Gln 2730	Val Ile Ile Glu Glu Ile 2609 Lys Phe Asp 2620 His Asn Met 2635 Asp Ser Thr Arg Glu Arg Val Ser Ser 2689 Glu Lys Leu 2700 Leu Ser Glu 2715 Arg Ile Gly	2575 Asp Thr Phe 2590 Leu Lys Thr  Asn Lys Thr  Trp His Tyr 2640 Glu Tyr Thr 2655 Asn Leu Asp 2670 Asp Ser Glu  Glu Ser Thr  Leu Lys Asp 2720

<210> 13

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<211> 2710
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence:/note =
      synthetic construct
<400> 13
Met Ser Asp Lys Met Ser Ser Phe Leu His Ile Gly Asp Ile Cys Ser
                                    10
Leu Tyr Ala Glu Gly Ser Thr Asn Gly Phe Ile Ser Thr Leu Gly Leu
                                25
Val Asp Asp Arg Cys Val Val Gln Pro Glu Ala Gly Asp Leu Asn Asn
                            40
Pro Pro Lys Lys Phe Arg Asp Cys Leu Phe Lys Leu Cys Pro Met Asn
Arg Tyr Ser Ala Gln Lys Gln Phe Trp Lys Ala Ala Lys Pro Gly Ala
Asn Ser Thr Thr Asp Ala Val Leu Leu Asn Lys Leu His His Ala Ala
                                    90
Asp Leu Glu Lys Lys Gln Asn Glu Thr Glu Asn Arg Lys Leu Leu Gly
                                105
Thr Val Ile Gln Tyr Gly Asn Val Ile Gln Leu Leu His Leu Lys Ser
                            120
Asn Lys Tyr Leu Thr Val Asn Lys Arg Leu Pro Ala Leu Leu Glu Lys
                        135
Asn Ala Met Arg Val Thr Leu Asp Glu Ala Gly Asn Glu Gly Ser Trp
                    150
                                        155
Phe Tyr Ile Gln Pro Phe Tyr Lys Leu Arg Ser Ile Gly Asp Ser Val
                                    170
Val Ile Gly Asp Lys Val Val Leu Asn Pro Val Asn Ala Gly Gln Pro
                                185
            180
Leu His Ala Ser Ser His Gln Leu Val Asp Asn Pro Gly Cys Asn Glu
                            200
Val Asn Ser Val Asn Cys Asn Thr Ser Trp Lys Ile Val Leu Phe Met
                       215
                                            220
Lys Trp Ser Asp Asn Lys Asp Asp Ile Leu Lys Gly Gly Asp Val Val
                   230
                                        235
Arg Leu Phe His Ala Glu Glu Glu Lys Phe Leu Thr Cys Asp Glu His
                                    250
                245
Arg Lys Lys Gln His Val Phe Leu Arg Thr Thr Gly Arg Gln Ser Ala
            260
                                265
Thr Ser Ala Thr Ser Ser Lys Ala Leu Trp Glu Val Glu Val Val Gln
                            280
                                                285
His Asp Pro Cys Arg Gly Gly Ala Gly Tyr Trp Asn Ser Leu Phe Arg
                                            300
                        295
Phe Lys His Leu Ala Thr Gly His Tyr Leu Ala Ala Glu Val Asp Pro
                    310
                                        315
Asp Phe Glu Glu Glu Cys Leu Glu Phe Gln Pro Ser Val Asp Pro Asp
                325
                                    330
Gln Asp Ala Ser Arg Ser Arg Leu Arg Asn Ala Gln Glu Lys Met Val
                                345
Tyr Ser Leu Val Ser Val Pro Glu Gly Asn Asp Ile Ser Ser Ile Phe
Glu Leu Asp Pro Thr Thr Leu Arg Gly Gly Asp Ser Leu Val Pro Arg
Asn Ser Tyr Val Arg Leu Arg His Leu Cys Thr Asn Thr Trp Val His
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390
385
                                        395
Ser Thr Asn Ile Pro Ile Asp Lys Glu Glu Glu Lys Pro Val Met Leu
                405
                                    410
Lys Ile Gly Thr Ser Pro Leu Lys Glu Asp Lys Glu Ala Phe Ala Ile
            420
                                425
Val Pro Val Ser Pro Ala Glu Val Arg Asp Leu Asp Phe Ala Asn Asp
                            440
Ala Ser Lys Val Leu Gly Ser Ile Ala Gly Lys Leu Glu Lys Gly Thr
                        455
Ile Thr Gln Asn Glu Arg Arg Ser Val Thr Lys Leu Leu Glu Asp Leu
                    470
                                        475
Val Tyr Phe Val Thr Gly Gly Thr Asn Ser Gly Gln Asp Val Leu Glu
                485
                                    490
Val Val Phe Ser Lys Pro Asn Arg Glu Arg Gln Lys Leu Met Arg Glu
                                505
Gln Asn Ile Leu Lys Gln Ile Phe Lys Leu Leu Gln Ala Pro Phe Thr
                          520
Asp Cys Gly Asp Gly Pro Met Leu Arg Leu Glu Glu Leu Gly Asp Gln
                        535
Arg His Ala Pro Phe Arg His Ile Cys Arg Leu Cys Tyr Arg Val Leu
                    550
Arg His Ser Gln Gln Asp Tyr Arg Lys Asn Gln Glu Tyr Ile Ala Lys
                                    570
Gln Phe Gly Phe Met Gln Lys Gln Ile Gly Tyr Asp Val Leu Ala Glu
            580
Asp Thr Ile Thr Ala Leu Leu His Asn Asn Arg Lys Leu Leu Glu Lys
                            600
His Ile Thr Ala Ala Glu Ile Asp Thr Phe Val Ser Leu Val Arg Lys
Asn Arg Glu Pro Arg Phe Leu Asp Tyr Leu Ser Asp Leu Cys Val Ser
                                        635
Met Asn Lys Ser Ile Pro Val Thr Gln Glu Leu Ile Cys Lys Ala Val
                                    650
Leu Asn Pro Thr Asn Ala Asp Ile Leu Ile Glu Thr Lys Leu Val Leu
                                665
Ser Arg Phe Glu Phe Glu Gly Val Ser Thr Gly Glu Asn Ala Leu Glu
                            680
Ala Gly Glu Asp Glu Glu Val Trp Leu Phe Trp Arg Asp Ser Asn
                        695
                                            700
Lys Glu Ile Arg Ser Lys Ser Val Arg Glu Leu Ala Gln Asp Ala Lys
                    710
                                        715
Glu Gly Gln Lys Glu Asp Arg Asp Val Leu Ser Tyr Tyr Arg Tyr Gln
                                    730
Leu Asn Leu Phe Ala Arg Met Cys Leu Asp Arg Gln Tyr Leu Ala Ile
                                745
Asn Glu Ile Ser Gly Gln Leu Asp Val Asp Leu Ile Leu Arg Cys Met
                            760
Ser Asp Glu Asn Leu Pro Tyr Asp Leu Arg Ala Ser Phe Cys Arg Leu
                        775
                                            780
Met Leu His Met His Val Asp Arg Asp Pro Gln Glu Gln Val Thr Pro
                    790
                                        795
Val Lys Tyr Ala Arg Leu Trp Ser Glu Ile Pro Ser Glu Ile Ala Ile
                805
                                    810
Asp Asp Tyr Asp Ser Ser Gly Ala Ser Lys Asp Glu Ile Lys Glu Arg
            820
                                825
Phe Ala Gln Thr Met Glu Phe Val Glu Glu Tyr Leu Arg Asp Val Val
                            840
Cys Gln Arg Phe Pro Phe Ser Asp Lys Glu Lys Asn Lys Leu Thr Phe
                        855
                                            860
Glu Val Val Asn Leu Ala Arg Asn Leu Ile Tyr Phe Gly Phe Tyr Asn
                    870
                                        875
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Phe Ser Asp Leu Leu Arg Leu Thr Lys Ile Leu Leu Ala Ile Leu Asp
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Cys Val His Val Thr Thr Ile Phe Pro Ile Ser Lys Met Thr Lys Gly
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Glu Glu Asn Lys Gly Ser Asn Val Met Arg Ser Ile His Gly Val Gly
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Glu Leu Met Thr Gln Val Val Leu Arg Gly Gly Phe Leu Pro Met
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                                    940
Thr Pro Met Ala Ala Pro Glu Gly Asn Val Lys Gln Ala Glu Pro
                                955
               950
Glu Lys Glu Asp Ile Met Val Met Asp Thr Lys Leu Lys Ile Ile Glu
            965
                             970
Ile Leu Gln Phe Ile Leu Asn Val Arg Leu Asp Tyr Arg Ile Ser Cys
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         980
                         985
Leu Leu Cys Ile Phe Lys Arg Glu Phe Asp Glu Ser Asn Ser Gln Ser
                     1000
                                       1005
Ser Glu Thr Ser Ser Gly Asn Ser Ser Gln Glu Gly Pro Ser Asn Val
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                                   1020
Pro Gly Ala Leu Asp Phe Glu His Ile Glu Glu Gln Ala Glu Gly Ile
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                       1035
Phe Gly Gly Ser Glu Glu Asn Thr Pro Leu Asp Leu Asp Asp His Gly
            1045
                   1050 1055
Gly Arg Thr Phe Leu Arg Val Leu Leu His Leu Thr Met His Asp Tyr
         1060
               1065
Pro Pro Leu Val Ser Gly Ala Leu Gln Leu Leu Phe Arg His Phe Ser
                      1080 1085
Gln Arg Gln Glu Val Leu Gln Ala Phe Lys Gln Val Gln Leu Leu Val
  1090 1095
                                   1100
Thr Ser Gln Asp Val Asp Asn Tyr Lys Gln Ile Lys Gln Asp Leu Asp
      1110
                                1115
Gln Leu Arg Ser Ile Val Glu Lys Ser Glu Leu Trp Val Tyr Lys Gly
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                             1130
Gln Gly Pro Asp Glu Pro Met Asp Gly Ala Ser Gly Glu Asn Glu His
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                         1145
                                          1150
Lys Lys Thr Glu Glu Gly Thr Ser Lys Pro Leu Lys His Glu Ser Thr
     1155
                      1160
                              1165
Ser Ser Tyr Asn Tyr Arg Val Val Lys Glu Ile Leu Ile Arg Leu Ser
                                    1180
                   1175
Lys Leu Cys Val Gln Glu Ser Ala Ser Val Arg Lys Ser Arg Lys Gln
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    1190
Gln Gln Arg Leu Leu Arg Asn Met Gly Ala His Ala Val Val Leu Glu
          1205
                             1210
Leu Leu Gln Ile Pro Tyr Glu Lys Ala Glu Asp Thr Lys Met Gln Glu
         1220 1225
                                 1230
Ile Met Arg Leu Ala His Glu Phe Leu Gln Asn Phe Cys Ala Gly Asn
      1235 1240 1245
Gln Gln Asn Gln Ala Leu Leu His Lys His Ile Asn Leu Phe Leu Asn
  1250 1255
                                   1260
Pro Gly Ile Leu Glu Ala Val Thr Met Gln His Ile Phe Met Asn Asn
     1270
                       1275
Phe Gln Leu Cys Ser Glu Ile Asn Glu Arq Val Val Gln His Phe Val
            1285
                             1290
His Cys Ile Glu Thr His Gly Arg Asn Val Gln Tyr Ile Lys Phe Leu
         1300 1305
                               <sub>.</sub> 1310
Gln Thr Ile Val Lys Ala Glu Gly Lys Phe Ile Lys Lys Cys Gln Asp
                      1320
      1315
                              1325
Met Val Met Ala Glu Leu Val Asn Ser Gly Glu Asp Val Leu Val Phe
   1330
         1335
                                   1340
Tyr Asn Asp Arg Ala Ser Phe Gln Thr Leu Ile Gln Met Met Arg Ser
1345 1350 1355 1360
Glu Arg Asp Arg Met Asp Glu Asn Ser Pro Leu Phe Met Tyr His Ile
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	1365		1370	1375
His Leu Val Glu 138		la Val Cys 1389		Lys Asn Val Tyr 1390
Thr Glu Ile Lys 1395	Cys Asn Se	er Leu Leu 1400	Pro Leu Asp	Asp Ile Val Arg 1405
Val Val Thr His 1410		ys Ile Pro 415	Glu Val Lys 1420	Ile Ala Tyr Ile
Asn Phe Leu Asn 1425	His Cys Ty 1430	yr Val Asp	Thr Glu Val 1435	Glu Met Lys Glu 1440
Ile Tyr Thr Ser	Asn His Me	et Trp Lys	Leu Phe Glu 1450	Asn Phe Leu Val 1455
Asp Ile Cys Arg 146		sn Asn Thr 1469		Lys His Ala Asp 1470
Ser Val Leu Glu 1475	Lys Tyr Va	al Thr Glu 1480	Ile Val Met	Ser Ile Val Thr 1485
1490	14	495	1500	
1505	1510		1515	Phe Arg Val Tyr 1520
	1525		1530	Val Glu Ser Cys 1535
154	0	1549	5	Ile Ala Ile Pro 1550
1555		1560		Lys Ser His Asn 1565
1570	15	575	1580	
1585	1590		1595	Tyr Arg Asn Ile 1600
•	1605		1610	Asp Arg Leu Arg
162	0	1625	5	Val Leu His Arg 1630
	D) - D - 0.			
1635		1640		Arg Lys Cys Glu 1645
1635 Ser Gly Gly Phe 1650	Ile Cys Ly	1640 ys Leu Ile 655	Lys His Thr	1645 Lys Gln Leu Leu )
1635 Ser Gly Gly Phe 1650 Glu Glu Asn Glu 1665	Ile Cys Ly 16 Glu Lys Le 1670	1640 ys Leu Ile 655 eu Cys Ile	Lys His Thr 1660 Lys Val Leu 1675	1645 Lys Gln Leu Leu ) Gln Thr Leu Arg 1680
1635 Ser Gly Gly Phe 1650 Glu Glu Asn Glu 1665 Glu Met Met Thr	Ile Cys Ly Glu Lys Le 1670 Lys Asp An	1640 ys Leu Ile 655 eu Cys Ile rg Gly Tyr	Lys His Thr 1660 Lys Val Leu 1675 Gly Glu Lys 1690	1645 Lys Gln Leu Leu O Gln Thr Leu Arg 1680 Gly Glu Ala Leu 1695
Ser Gly Gly Phe 1650 Glu Glu Asn Glu 1665 Glu Met Met Thr Arg Gln Ile Leu 170	Ile Cys Ly 16 Glu Lys Le 1670 Lys Asp An 1685 Val Asn An	1640 ys Leu Ile 655 eu Cys Ile rg Gly Tyr rg Tyr Tyr 1709	Lys His Thr 1660 Lys Val Leu 1675 Gly Glu Lys 1690 Gly Asn Ile	1645 Lys Gln Leu Leu O Gln Thr Leu Arg 1680 Gly Glu Ala Leu 1695 Arg Pro Ser Gly 1710
Ser Gly Gly Phe 1650 Glu Glu Asn Glu 1665 Glu Met Met Thr Arg Gln Ile Leu 170 Arg Arg Glu Glu 1715	Ile Cys Ly 16 Glu Lys Le 1670 Lys Asp An 1685 Val Asn An 0 Leu Thr Se	1640 ys Leu Ile 655 eu Cys Ile rg Gly Tyr rg Tyr Tyr 1709 er Phe Gly 1720	Lys His Thr 1660 Lys Val Leu 1675 Gly Glu Lys 1690 Gly Asn Ile 6 Asn Gly Pro	Lys Gln Leu Leu  Gln Thr Leu Arg  1680  Gly Glu Ala Leu  1695  Arg Pro Ser Gly  1710  Leu Ser Pro Gly  1725
Ser Gly Gly Phe 1650 Glu Glu Asn Glu 1665 Glu Met Met Thr Arg Gln Ile Leu 170 Arg Arg Glu Glu 1715 Gly Pro Ser Lys 1730	Ile Cys Ly 16 Glu Lys Le 1670 Lys Asp An 1685 Val Asn An 0 Leu Thr Se Pro Gly G	1640 ys Leu Ile 655 eu Cys Ile rg Gly Tyr rg Tyr Tyr 1709 er Phe Gly 1720 ly Gly Gly 735	Lys His Thr 1660 Lys Val Leu 1675 Gly Glu Lys 1690 Gly Asn Ile Asn Gly Pro 1740	Lys Gln Leu Leu  Gln Thr Leu Arg  1680 Gly Glu Ala Leu  1695 Arg Pro Ser Gly  1710 Leu Ser Pro Gly  1725 Gly Ser Gly Ser
Ser Gly Gly Phe 1650 Glu Glu Asn Glu 1665 Glu Met Met Thr Arg Gln Ile Leu 170 Arg Arg Glu Glu 1715 Gly Pro Ser Lys 1730 Thr Ser Arg Gly 1745	Ile Cys Ly 16 Glu Lys Le 1670 Lys Asp An 1685 Val Asn An 0 Leu Thr Se Pro Gly G 1' Glu Met Se 1750	1640 ys Leu Ile 655 eu Cys Ile rg Gly Tyr rg Tyr Tyr 1709 er Phe Gly 1720 ly Gly Gly 735 er Leu Ala	Lys His Thr 1660 Lys Val Leu 1675 Gly Glu Lys 1690 Gly Asn Ile 6 Asn Gly Pro 1740 Glu Val Gln 1755	Lys Gln Leu Leu  Gln Thr Leu Arg 1680 Gly Glu Ala Leu 1695 Arg Pro Ser Gly 1710 Leu Ser Pro Gly 1725 Gly Ser Gly Ser  Cys His Leu Asp 1760
Ser Gly Gly Phe 1650 Glu Glu Asn Glu 1665 Glu Met Met Thr Arg Gln Ile Leu 170 Arg Arg Glu Glu 1715 Gly Pro Ser Lys 1730 Thr Ser Arg Gly 1745 Lys Glu Gly Ala	Ile Cys Ly 16 Glu Lys Le 1670 Lys Asp An 1685 Val Asn An 0 Leu Thr Se Pro Gly Gi 1750 Ser Asn Le 1765	1640 ys Leu Ile 655 eu Cys Ile rg Gly Tyr rg Tyr Tyr 1709 er Phe Gly 1720 ly Gly Gly 735 er Leu Ala eu Val Ile	Lys His Thr 1660 Lys Val Leu 1675 Gly Glu Lys 1690 Gly Asn Ile Asn Gly Pro 1740 Glu Val Gln 1755 Asp Leu Ile	Lys Gln Leu Leu  Gln Thr Leu Arg 1680 Gly Glu Ala Leu 1695 Arg Pro Ser Gly 1710 Leu Ser Pro Gly 1725 Gly Ser Gly Ser  Cys His Leu Asp 1760 Met Asn Ala Ser
Ser Gly Gly Phe 1650  Glu Glu Asn Glu 1665  Glu Met Met Thr  Arg Gln Ile Leu 170  Arg Arg Glu Glu 1715  Gly Pro Ser Lys 1730  Thr Ser Arg Gly 1745  Lys Glu Gly Ala  Ser Asp Arg Val 178	Ile Cys Ly 16 Glu Lys Le 1670 Lys Asp An 1685 Val Asn An 0 Leu Thr Se Pro Gly Gi Glu Met Se 1750 Ser Asn Le 1765 Phe His Gi 0	1640 ys Leu Ile 655 eu Cys Ile rg Gly Tyr rg Tyr Tyr 1709 er Phe Gly 1720 ly Gly Gly 735 er Leu Ala eu Val Ile lu Ser Ile	Lys His Thr 1660 Lys Val Leu 1675 Gly Glu Lys 1690 Gly Asn Ile Asn Gly Pro 1740 Glu Val Gln 1755 Asp Leu Ile 1770 Leu Leu Ala	1645 Lys Gln Leu Leu O Gln Thr Leu Arg 1680 Gly Glu Ala Leu 1695 Arg Pro Ser Gly 1710 Leu Ser Pro Gly 1725 Gly Ser Gly Ser O Cys His Leu Asp 1760 Met Asn Ala Ser 1775 Ile Ala Leu Leu 1790
Ser Gly Gly Phe 1650  Glu Glu Asn Glu 1665  Glu Met Met Thr  Arg Gln Ile Leu 170  Arg Arg Glu Glu 1715  Gly Pro Ser Lys 1730  Thr Ser Arg Gly 1745  Lys Glu Gly Ala  Ser Asp Arg Val 178  Glu Gly Gly Asn 1795	Ile Cys Ly 16 Glu Lys Le 1670 Lys Asp An 1685 Val Asn An 0 Leu Thr Se Pro Gly Gi Glu Met Se 1750 Ser Asn Le 1765 Phe His Gi 0 Thr Thr Ii	1640 ys Leu Ile 655 eu Cys Ile rg Gly Tyr rg Tyr Tyr 1709 er Phe Gly 1720 ly Gly Gly 735 er Leu Ala eu Val Ile lu Ser Ile 1789 le Gln His	Lys His Thr 1660 Lys Val Leu 1675 Gly Glu Lys 1690 Gly Asn Ile Asn Gly Pro 1740 Glu Val Gln 1755 Asp Leu Ile 1770 Leu Leu Ala Ser Phe Phe	1645 Lys Gln Leu Leu O Gln Thr Leu Arg 1680 Gly Glu Ala Leu 1695 Arg Pro Ser Gly 1710 Leu Ser Pro Gly 1725 Gly Ser Gly Ser O Cys His Leu Asp 1760 Met Asn Ala Ser 1775 Ile Ala Leu Leu 1790 Cys Arg Leu Thr
Ser Gly Gly Phe 1650 Glu Glu Asn Glu 1665 Glu Met Met Thr  Arg Gln Ile Leu 170 Arg Arg Glu Glu 1715 Gly Pro Ser Lys 1730 Thr Ser Arg Gly 1745 Lys Glu Gly Ala Ser Asp Arg Val 178 Glu Gly Gly Asn 1795 Glu Asp Lys Lys 1810	Ile Cys Ly 16 Glu Lys Le 1670 Lys Asp An 1685 Val Asn An 0 Leu Thr Se Pro Gly Gi Glu Met Se 1750 Ser Asn Le 1765 Phe His Gi 0 Thr Thr Ii	1640 ys Leu Ile 655 eu Cys Ile rg Gly Tyr rg Tyr Tyr 1709 er Phe Gly 1720 ly Gly Gly 735 er Leu Ala eu Val Ile lu Ser Ile 1789 le Gln His 1800 ys Phe Phe	Lys His Thr 1660 Lys Val Leu 1675 Gly Glu Lys 1690 Gly Asn Ile Asn Gly Pro 1740 Glu Val Gln 1755 Asp Leu Ile 1770 Leu Leu Ala Ser Phe Phe 1820	Lys Gln Leu Leu  Gln Thr Leu Arg 1680 Gly Glu Ala Leu 1695 Arg Pro Ser Gly 1710 Leu Ser Pro Gly 1725 Gly Ser Gly Ser  Cys His Leu Asp 1760 Met Asn Ala Ser 1775 Ile Ala Leu Leu 1790 Cys Arg Leu Thr 1805 Tyr Asp Arg Met
Ser Gly Gly Phe 1650  Glu Glu Asn Glu 1665  Glu Met Met Thr  Arg Gln Ile Leu 170  Arg Arg Glu Glu 1715  Gly Pro Ser Lys 1730  Thr Ser Arg Gly 1745  Lys Glu Gly Ala  Ser Asp Arg Val 178  Glu Gly Gly Asn 1795  Glu Asp Lys Lys 1810  Lys Val Ala Gln 1825	Ile Cys Ly 16 Glu Lys Le 1670 Lys Asp An 1685 Val Asn An 0 Leu Thr Se Pro Gly Gi Glu Met Se 1750 Ser Asn Le 1765 Phe His Gi O Thr Thr Ii Ser Glu Ly 18 Gln Glu Ii 1830	1640 ys Leu Ile 655 eu Cys Ile rg Gly Tyr rg Tyr Tyr 1709 er Phe Gly 1720 ly Gly Gly 735 er Leu Ala eu Val Ile lu Ser Ile 1789 le Gln His 1800 ys Phe Phe 815 le Lys Ala	Lys His Thr 1660 Lys Val Leu 1675 Gly Glu Lys 1690 Gly Asn Ile Asn Gly Pro Gly Gly Pro 1740 Glu Val Gln 1755 Asp Leu Ile 1770 Leu Leu Ala Ser Phe Phe Lys Val Phe 1820 Thr Val Thr	1645 Lys Gln Leu Leu O Gln Thr Leu Arg 1680 Gly Glu Ala Leu 1695 Arg Pro Ser Gly 1710 Leu Ser Pro Gly 1725 Gly Ser Gly Ser O Cys His Leu Asp 1760 Met Asn Ala Ser 1775 Ile Ala Leu Leu 1790 Cys Arg Leu Thr 1805 Tyr Asp Arg Met

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Ser Arg Lys Lys Ala Lys Glu Pro Thr Thr Gln Ile Thr Glu Glu Val
         1860
                         1865
Arg Asp Gln Leu Leu Glu Ala Ser Ala Ala Thr Arg Lys Ala Phe Thr
     1875
             1880
                            1885
Thr Phe Arg Arg Glu Ala Asp Pro Asp Asp His Tyr Gln Ser Gly Glu
                 1895
                         1900
Gly Thr Gln Ala Thr Thr Asp Lys Ala Lys Asp Asp Leu Glu Met Ser
       1910
                      1915
Ala Val Ile Thr Ile Met Gln Pro Ile Leu Arg Phe Leu Gln Leu Leu.
                           1930
Cys Glu Asn His Asn Arg Asp Leu Gln Asn Phe Leu Arg Cys Gln Asn
        1940 1945
Asn Lys Thr Asn Tyr Asn Leu Val Cys Glu Thr Leu Gln Phe Leu Asp
     1955 1960
                                    1965
Cys Ile Cys Gly Ser Thr Thr Gly Gly Leu Gly Leu Gly Leu Tyr
       1975
                         1980
Ile Asn Glu Lys Asn Val Ala Leu Ile Asn Gln Thr Leu Glu Ser Leu
      1990
                     1995
Thr Glu Tyr Cys Gln Gly Pro Cys His Glu Asn Gln Asn Cys Ile Ala
           2005
                           2010 2015
Thr His Glu Ser Asn Gly Ile Asp Ile Ile Thr Ala Leu Ile Leu Asn
        2020
                        2025
Asp Ile Asn Pro Leu Gly Lys Lys Arg Met Asp Leu Val Leu Glu Leu
   2035 2040
                            2045
Lys Asn Asn Ala Ser Lys Leu Leu Leu Ala Ile Met Glu Ser Arg His
 2050 2055
                                 2060
Asp Ser Glu Asn Ala Glu Arg Ile Leu Tyr Asn Met Arg Pro Lys Glu
      2070
                      2075
Leu Val Glu Val Ile Lys Lys Ala Tyr Met Gln Gly Glu Val Glu Phe
                 2090
            2085
Glu Asp Gly Glu Asn Gly Glu Asp Gly Ala Ala Ser Pro Arg Asn Val
         2100
                        2105
                              2110
Gly His Asn Ile Tyr Ile Leu Ala His Gln Leu Ala Arg His Asn Lys
            2120
                            2125
Glu Leu Gln Thr Met Leu Lys Pro Gly Gly Gln Val Asp Gly Asp Glu
        2135
                         2140
Ala Leu Glu Phe Tyr Ala Lys His Thr Ala Gln Ile Glu Ile Val Arg
      2150
                    2155
Leu Asp Arg Thr Met Glu Gln Ile Val Phe Pro Val Pro Ser Ile Cys
                           2170
          2165
Glu Phe Leu Thr Lys Glu Ser Lys Leu Arg Ile Tyr Tyr Thr Thr Glu
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              2185
Arg Asp Glu Gln Gly Ser Lys Ile Asn Asp Phe Phe Leu Arg Ser Glu
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                            2205
Asp Leu Phe Asn Glu Met Asn Trp Gln Lys Lys Leu Arg Ala Gln Pro
                  2215
                                  2220
Val Leu Tyr Trp Cys Ala Arg Asn Met Ser Phe Trp Ser Ser Ile Ser
               2230 2235
Phe Asn Leu Ala Val Leu Met Asn Leu Leu Val Ala Phe Phe Tyr Pro
            2245 2250 2255
Phe Lys Gly Val Arg Gly Gly Thr Leu Glu Pro His Trp Ser Gly Leu
        2260
              2265
                                        2270
Leu Trp Thr Ala Met Leu Ile Ser Leu Ala Ile Val Ile Ala Leu Pro
 2275 2280 2285
Lys Pro His Gly Ile Arg Ala Leu Ile Ala Ser Thr Ile Leu Arg Leu
                 2295
                        2300
Ile Phe Ser Val Gly Leu Gln Pro Thr Leu Phe Leu Leu Gly Ala Phe
2305 2310 2315 2320
Asn Val Cys Asn Lys Ile Ile Phe Leu Met Ser Phe Val Gly Asn Cys
            2325 2330 2335
Gly Thr Phe Thr Arg Gly Tyr Arg Ala Met Val Leu Asp Val Glu Phe
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Leu Tyr His Leu Leu Tyr Leu Leu Ile Cys Ala Met Gly Leu Phe Val
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                                               2365
His Glu Phe Phe Tyr Ser Leu Leu Leu Phe Asp Leu Val Tyr Arg Glu
                      2375
                                           2380
Glu Thr Leu Leu Asn Val Ile Lys Ser Val Thr Arg Asn Gly Arg Pro
                   2390
                                       2395
Ile Ile Leu Thr Ala Ala Leu Ala Leu Ile Leu Val Tyr Leu Phe Ser
               2405
                                   2410
Ile Val Gly Tyr Leu Phe Phe Lys Asp Phe Ile Leu Glu Val Asp
           2420
                               2425
Arg Leu Pro Asn Glu Thr Ala Gly Pro Glu Thr Gly Glu Ser Leu Ala
       2435 2440
Asn Asp Phe Leu Tyr Ser Asp Val Cys Arg Val Glu Thr Gly Glu Asn
                       2455
Cys Thr Ser Pro Ala Pro Lys Glu Glu Leu Leu Pro Val Glu Glu Thr
                   2470
                                       2475
Glu Gln Asp Lys Glu His Thr Cys Glu Thr Leu Leu Met Cys Ile Val
               2485
                                   2490
Thr Val Leu Ser His Gly Leu Arg Ser Gly Gly Val Gly Asp Val
                               2505
                                                  2510
Leu Arg Lys Pro Ser Lys Glu Glu Pro Leu Phe Ala Ala Arg Val Ile
                           2520
                                              2525
Tyr Asp Leu Leu Phe Phe Met Val Ile Ile Val Leu Asn Leu
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                                           2540
Ile Phe Gly Val Ile Ile Asp Thr Phe Ala Asp Leu Arg Ser Glu Lys
                   2550
                                      2555
Gln Lys Lys Glu Glu Ile Leu Lys Thr Thr Cys Phe Ile Cys Gly Leu
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                                   25.70
                                                      2575
Glu Arg Asp Lys Phe Asp Asn Lys Thr Val Thr Phe Glu Glu His Ile
           2580
                               2585
Lys Glu Glu His Asn Met Trp His Tyr Leu Cys Phe Ile Val Leu Val
                           2600
                                              2605
Lys Val Lys Asp Ser Thr Glu Tyr Thr Gly Pro Glu Ser Tyr Val Ala
                       2615
                                          2620
Glu Met Ile Arg Glu Arg Asn Leu Asp Trp Phe Pro Arg Met Arg Ala
                   2630
                                      2635
Met Ser Leu Val Ser Ser Asp Ser Glu Gly Glu Gln Asn Glu Leu Arg
               2645
                                   2650
Asn Leu Gln Glu Lys Leu Glu Ser Thr Met Lys Leu Val Thr Asn Leu
                               2665
Ser Gly Gln Leu Ser Glu Leu Lys Asp Gln Met Thr Glu Gln Arg Lys
                           2680
                                              2685
Gln Lys Gln Arg Ile Gly Leu Leu Gly His Pro Pro His Met Asn Val
                       2695
                                          2700
Asn Pro Gln Gln Pro Ala
2705
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Val Asp Asp Arg Cys Val Val Gln Pro Glu Ala Gly Asp Leu Asn Asn
Pro Pro Lys Lys Phe Arg Asp Cys Leu Phe Lys Leu Cys Pro Met Asn
Arg Tyr Ser Ala Gln Lys Gln Phe Trp Lys Ala Ala Lys Pro Gly Ala
                   70
Asn Ser Thr Thr Asp Ala Val Leu Leu Asn Lys Leu His His Ala Ala
                                    90
               85
Asp Leu Glu Lys Lys Gln Asn Glu Thr Glu Asn Arg Lys Leu Leu Gly
           100
                                105
Thr Val Ile Gln Tyr Gly Asn Val Ile Gln Leu Leu His Leu Lys Ser
                                                125
                           120
Asn Lys Tyr Leu Thr Val Asn Lys Arg Leu Pro Ala Leu Leu Glu Lys
                       135
                                           140
Asn Ala Met Arg Val Thr Leu Asp Glu Ala Gly Asn Glu Gly Ser Trp
                                  155
                   150
Phe Tyr Ile Gln Pro Phe Tyr Lys Leu Arg Ser Ile Gly Asp Ser Val
                                   170
               165
Val Ile Gly Asp Lys Val Val Leu Asn Pro Val Asn Ala Gly Gln Pro
                               185
Leu His Ala Ser Ser His Gln Leu Val Asp Asn Pro Gly Cys Asn Glu
                           200
Val Asn Ser Val Asn Cys Asn Thr Ser Trp Lys Ile Val Leu Phe Met
                       215
Lys Trp Ser Asp Asn Lys Asp Asp Ile Leu Lys Gly Gly Asp Val Val
                                       235
                   230
Arg Leu Phe His Ala Glu Gln Glu Lys Phe Leu Thr Cys Asp Glu His
                                    250
                245
Arg Lys Lys Gln His Val Phe Leu Arg Thr Thr Gly Arg Gln Ser Ala
                               265
            260
Thr Ser Ala Thr Ser Ser Lys Ala Leu Trp Glu Val Glu Val Val Gln
                            280
His Asp Pro Cys Arg Gly Gly Ala Gly Tyr Trp Asn Ser Leu Phe Arg
                                            300
                        295
Phe Lys His Leu Ala Thr Gly His Tyr Leu Ala Ala Glu Val Asp Pro
                    310
                                        315
Asp Phe Glu Glu Glu Cys Leu Glu Phe Gln Pro Ser Val Asp Pro Asp
                                    330
                325
Gln Asp Ala Ser Arg Ser Arg Leu Arg Asn Ala Gln Glu Lys Met Val
                                345
Tyr Ser Leu Val Ser Val Pro Glu Gly Asn Asp Ile Ser Ser Ile Phe
                            360
Glu Leu Asp Pro Thr Thr Leu Arg Gly Gly Asp Ser Leu Val Pro Arg
                        375
                                            380
Asn Ser Tyr Val Arg Leu Arg His Leu Cys Thr Asn Thr Trp Val His
                    390
                                        395
Ser Thr Asn Ile Pro Ile Asp Lys Glu Glu Lys Pro Val Met Leu
                405
                                    410
Lys Ile Gly Thr Ser Pro Leu Lys Glu Asp Lys Glu Ala Phe Ala Ile
                                425
                                                    430
            420
Val Pro Val Ser Pro Ala Glu Val Arg Asp Leu Asp Phe Ala Asn Asp
                            440
Ala Ser Lys Val Leu Gly Ser Ile Ala Gly Lys Leu Glu Lys Gly Thr
                        455
                                            460
Ile Thr Gln Asn Glu Arg Arg Ser Val Thr Lys Leu Leu Glu Asp Leu
                                        475
                    470
Val Tyr Phe Val Thr Gly Gly Thr Asn Ser Gly Gln Asp Val Leu Glu
                                    490
                485
Val Val Phe Ser Lys Pro Asn Arg Glu Arg Gln Lys Leu Met Arg Glu
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Gln Asn Ile Leu Lys Gln Ile Phe Lys Leu Leu Gln Ala Pro Phe Thr
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Asp Cys Gly Asp Gly Pro Met Leu Arg Leu Glu Leu Gly Asp Gln
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                        535
                                            540
Arg His Ala Pro Phe Arg His Ile Cys Arg Leu Cys Tyr Arg Val Leu
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                                       555
Arg His Ser Gln Gln Asp Tyr Arg Lys Asn Gln Glu Tyr Ile Ala Lys
                                    570
Gln Phe Gly Phe Met Gln Lys Gln Ile Gly Tyr Asp Val Leu Ala Glu
                                585
Asp Thr Ile Thr Ala Leu Leu His Asn Asn Arg Lys Leu Leu Glu Lys
                            600
His Ile Thr Ala Ala Glu Ile Asp Thr Phe Val Ser Leu Val Arg Lys
                        615
Asn Arg Glu Pro Arg Phe Leu Asp Tyr Leu Ser Asp Leu Cys Val Ser
                    630
                                       635
Met Asn Lys Ser Ile Pro Val Thr Gln Glu Leu Ile Cys Lys Ala Val
                645
                                    650
Leu Asn Pro Thr Asn Ala Asp Ile Leu Ile Glu Thr Lys Leu Val Leu
            660
                               665
Ser Arg Phe Glu Phe Glu Gly Val Ser Thr Gly Glu Asn Ala Leu Glu
                            680
Ala Gly Glu Asp Glu Glu Glu Val Trp Leu Phe Trp Arg Asp Ser Asn
                                           700
                        695
Lys Glu Ile Arg Ser Lys Ser Val Arg Glu Leu Ala Gln Asp Ala Lys
                    710
                                       715
Glu Gly Gln Lys Glu Asp Arg Asp Val Leu Ser Tyr Tyr Arg Tyr Gln
                725
                                    730
Leu Asn Leu Phe Ala Arg Met Cys Leu Asp Arg Gln Tyr Leu Ala Ile
                                745
            740
Asn Glu Ile Ser Gly Gln Leu Asp Val Asp Leu Ile Leu Arg Cys Met
                            760
Ser Asp Glu Asn Leu Pro Tyr Asp Leu Arg Ala Ser Phe Cys Arg Leu
                        775
                                           780
Met Leu His Met His Val Asp Arg Asp Pro Gln Glu Gln Val Thr Pro
                    790
                                       795
Val Lys Tyr Ala Arg Leu Trp Ser Glu Ile Pro Ser Glu Ile Ala Ile
               805
                                    810
Asp Asp Tyr Asp Ser Ser Gly Ala Ser Lys Asp Glu Ile Lys Glu Arg
            820
                               825
Phe Ala Gln Thr Met Glu Phe Val Glu Glu Tyr Leu Arg Asp Val Val
        835
                            840
Cys Gln Arg Phe Pro Phe Ser Asp Lys Glu Lys Asn Lys Leu Thr Phe
                       855
                                            860
Glu Val Val Asn Leu Ala Arg Asn Leu Ile Tyr Phe Gly Phe Tyr Asn
                870
                                        875
Phe Ser Asp Leu Leu Arg Leu Thr Lys Ile Leu Leu Ala Ile Leu Asp
                885
                                    890
Cys Val His Val Thr Thr Ile Phe Pro Ile Ser Lys Met Thr Lys Gly
            900
                                905
Glu Glu Asn Lys Gly Ser Asn Val Met Arg Ser Ile His Gly Val Gly
                            920
Glu Leu Met Thr Gln Val Val Leu Arg Gly Gly Phe Leu Pro Met
                        935
Thr Pro Met Ala Ala Pro Glu Gly Asn Val Lys Gln Ala Glu Pro
                    950
                                        955
.Glu Lys Glu Asp Ile Met Val Met Asp Thr Lys Leu Lys Ile Ile Glu
                965
                                    970
Ile Leu Gln Phe Ile Leu Asn Val Arg Leu Asp Tyr Arg Ile Ser Cys
                                985
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Leu Leu Cys Ile Phe Lys Arg Glu Phe Asp Glu Ser Asn Ser Gln Ser 1000 Ser Glu Thr Ser Ser Gly Asn Ser Ser Gln Glu Gly Pro Ser Asn Val Pro Gly Ala Leu Asp Phe Glu His Ile Glu Glu Gln Ala Glu Gly Ile 1030 1035 Phe Gly Gly Ser Glu Glu Asn Thr Pro Leu Asp Leu Asp Asp His Gly 1050 1045 Gly Arg Thr Phe Leu Arg Val Leu Leu His Leu Thr Met His Asp Tyr 1065 1070 1060 Pro Pro Leu Val Ser Gly Ala Leu Gln Leu Leu Phe Arg His Phe Ser 1080 1085 Gln Arg Gln Glu Val Leu Gln Ala Phe Lys Gln Val Gln Leu Leu Val 1095 1100 Thr Ser Gln Asp Val Asp Asn Tyr Lys Gln Ile Lys Gln Asp Leu Asp 1110 1115 1120 Gln Leu Arg Ser Ile Val Glu Lys Ser Glu Leu Trp Val Tyr Lys Gly 1125 1130 Gln Gly Pro Asp Glu Pro Met Asp Gly Ala Ser Gly Glu Asn Glu His 1140 1145 Lys Lys Thr Glu Glu Gly Thr Ser Lys Pro Leu Lys His Glu Ser Thr 1160 1165 1155 Ser Ser Tyr Asn Tyr Arg Val Val Lys Glu Ile Leu Ile Arg Leu Ser 1170 1175 1180 Lys Leu Cys Val Gln Glu Ser Ala Ser Val Arg Lys Ser Arg Lys Gln 1190 1195 Gln Gln Arg Leu Leu Arg Asn Met Gly Ala His Ala Val Val Leu Glu 1205 1210 Leu Leu Gln Ile Pro Tyr Glu Lys Ala Glu Asp Thr Lys Met Gln Glu 1220 1225 Ile Met Arg Leu Ala His Glu Phe Leu Gln Asn Phe Cys Ala Gly Asn 1235 1240 1245 Gln Gln Asn Gln Ala Leu Leu His Lys His Ile Asn Leu Phe Leu Asn 1260 1255 Pro Gly Ile Leu Glu Ala Val Thr Met Gln His Ile Phe Met Asn Asn 1270 1275 1280 Phe Gln Leu Cys Ser Glu Ile Asn Glu Arg Val Val Gln His Phe Val 1290 1285 His Cys Ile Glu Thr His Gly Arg Asn Val Gln Tyr Ile Lys Phe Leu 1310 1305 1300 Gln Thr Ile Val Lys Ala Glu Gly Lys Phe Ile Lys Lys Cys Gln Asp 1320 1325 Met Val Met Ala Glu Leu Val Asn Ser Gly Glu Asp Val Leu Val Phe 1335 1340 Tyr Asn Asp Arg Ala Ser Phe Gln Thr Leu Ile Gln Met Met Arg Ser 1345 1350 1355 Glu Arg Asp Arg Met Asp Glu Asn Ser Pro Leu Phe Met Tyr His Ile 1365 1370 His Leu Val Glu Leu Leu Ala Val Cys Thr Glu Gly Lys Asn Val Tyr 1380 1385 Thr Glu Ile Lys Cys Asn Ser Leu Leu Pro Leu Asp Asp Ile Val Arg 1400 Val Val Thr His Glu Asp Cys Ile Pro Glu Val Lys Ile Ala Tyr Ile 1415 1420 Asn Phe Leu Asn His Cys Tyr Val Asp Thr Glu Val Glu Met Lys Glu 1430 1435 Ile Tyr Thr Ser Asn His Met Trp Lys Leu Phe Glu Asn Phe Leu Val 1445 1450 Asp Ile Cys Arg Ala Cys Asn Asn Thr Ser Asp Arg Lys His Ala Asp 1465

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Ser Val Leu Glu Lys Tyr Val Thr Glu Ile Val Met Ser Ile Val Thr
                         1480
Thr Phe Phe Ser Ser Pro Phe Ser Asp Gln Ser Thr Thr Leu Gln Thr
                     1495
                                       1500
Arg Gln Pro Val Phe Val Gln Leu Leu Gln Gly Val Phe Arg Val Tyr
                 1510
                                   1515
His Cys Asn Trp Leu Met Pro Ser Gln Lys Ala Ser Val Glu Ser Cys
             1525
                               1530
Ile Arg Val Leu Ser Asp Val Ala Lys Ser Arg Ala Ile Ala Ile Pro
                  1545
          1540
Val Asp Leu Asp Ser Gln Val Asn Asn Leu Phe Leu Lys Ser His Asn
               1560
                                 1565
Ile Val Gln Lys Thr Ala Met Asn Trp Arg Leu Ser Ala Arg Asn Ala
                     1575
Ala Arg Arg Asp Asp Val Leu Ala Ala Ser Arg Asp Tyr Arg Asn Ile
                 1590
                                   1595
Ile Glu Arg Leu Gln Asp Ile Val Ser Ala Leu Glu Asp Arg Leu Arg
             1605
                                1610
Pro Leu Val Gln Ala Glu Leu Ser Val Leu Val Asp Val Leu His Arg
          1620
                            1625
Pro Glu Leu Leu Phe Pro Glu Asn Thr Asp Ala Arg Arg Lys Cys Glu
                        1640
Ser Gly Gly Phe Ile Cys Lys Leu Ile Lys His Thr Lys Gln Leu Leu
                    1655
                                       1660
Glu Glu Asn Glu Glu Lys Leu Cys Ile Lys Val Leu Gln Thr Leu Arg
                 1670
                                   1675
Glu Met Met Thr Lys Asp Arg Gly Tyr Gly Glu Lys Gln Ile Ser Ile
             1685
                                1690
Asp Glu Leu Glu Asn Ala Glu Leu Pro Gln Pro Pro Glu Ala Glu Asn
          1700
                            1705
Ser Thr Glu Glu Leu Glu Pro Ser Pro Pro Leu Arg Gln Leu Glu Asp
                        1720
                                          1725
His Lys Arg Gly Glu Ala Leu Arg Gln Ile Leu Val Asn Arg Tyr Tyr
                     1735
                                       1740
Gly Asn Ile Arg Pro Ser Gly Arg Arg Glu Glu Leu Thr Ser Phe Gly
                                   1755
                 1750
Asn Gly Pro Leu Ser Pro Gly Gly Pro Ser Lys Pro Gly Gly Gly
                                1770
              1765
Gly Gly Pro Gly Ser Gly Ser Thr Ser Arg Gly Glu Met Ser Leu Ala
          1780
                            1785
Glu Val Gln Cys His Leu Asp Lys Glu Gly Ala Ser Asn Leu Val Ile
                        1800
                                           1805
Asp Leu Ile Met Asn Ala Ser Ser Asp Arg Val Phe His Glu Ser Ile
                     1815
                                       1820
Leu Leu Ala Ile Ala Leu Leu Glu Gly Gly Asn Thr Thr Ile Gln His
                 1830
                                    1835
Ser Phe Phe Cys Arg Leu Thr Glu Asp Lys Lys Ser Glu Lys Phe Phe
                                1850
              1845
Lys Val Phe Tyr Asp Arg Met Lys Val Ala Gln Glu Ile Lys Ala
                            1865
          1860
Thr Val Thr Val Asn Thr Ser Asp Leu Gly Asn Lys Lys Asp Asp
                         1880 1885
Glu Val Asp Arg Asp Ala Pro Ser Arg Lys Lys Ala Lys Glu Pro Thr
                     1895
                                       1900
Thr Gln Ile Thr Glu Glu Val Arg Asp Gln Leu Leu Glu Ala Ser Ala
                 1910
                                   1915
Ala Thr Arg Lys Ala Phe Thr Thr Phe Arg Arg Glu Ala Asp Pro Asp
              1925
                                1930
Asp His Tyr Gln Ser Gly Glu Gly Thr Gln Ala Thr Thr Asp Lys Ala
          1940
                             1945
Lys Asp Asp Leu Glu Met Ser Ala Val Ile Thr Ile Met Gln Pro Ile
```

1955		1960		1965
Leu Arg Phe Leu 1970		Cys Glu Asr		Arg Asp Leu Gln
Asn Phe Leu Arg 1985			Asn Tyr 1995	Asn Leu Val Cys 2000
Glu Thr Leu Gln	Phe Leu Asp 2005	Cys Ile Cys		Thr Thr Gly Gly 2015
Leu Gly Leu Leu 2020	-	Ile Asn Glu 2025	ı Lys Asn	Val Ala Leu Ile 2030
Asn Gln Thr Leu 2035	Glu Ser Leu	Thr Glu Tyr 2040		Gly Pro Cys His 2045
Glu Asn Gln Asn 2050	Cys Ile Ala 205		Ser Asn 2060	<del>-</del>
Ile Thr Ala Leu 2065	Ile Leu Asn 2070	Asp Ile Asr	Pro Leu 2075	Gly Lys Lys Arg 2080
Met Asp Leu Val	Leu Glu Leu 2085	Lys Asn Asr 209		Lys Leu Leu 2095
Ala Ile Met Glu 210	_	Asp Ser Glu 2105	Asn Ala	Glu Arg Ile Leu 2110
Tyr Asn Met Arg	_	2120		2125
Met Gln Gly Glu 2130	213	5	2140	
Ala Ala Ser Pro 2145	2150		2155	2160
Gln Leu Ala Arg	2165	217	0	2175
Gly Gln Val Asp 2180		Ala Leu Glu 2185	ı Phe Tyr	Ala Lys His Thr 2190
Ala Gln Ile Glu 2195		2200		2205
Phe Pro Val Pro 2210	221	5	2220	
Arg Ile Tyr Tyr 2225	2230		2235	2240
Asp Phe Phe Leu	2245	225	0	2255
Lys Lys Leu Arg 2260	0	2265		2270
Ser Phe Trp Ser 2275		2280		2285
Leu Val Ala Phe 2290	229	5	2300	
2305	Ser Gly Leu 2310	Leu Trp Thi	2315	Leu Ile Ser Leu 2320
Ala Ile Val Ile		Lys Pro His	Gly Ile	
Ala Ser Thr Ile 2340		Ile Phe Ser 2345	Val Gly	Leu Gln Pro Thr 2350
Leu Phe Leu Leu 2355	Gly Ala Phe	Asn Val Cys 2360	-	Ile Ile Phe Leu 2365
Met Ser Phe Val 2370	Gly Asn Cys 237	_	Thr Arg 2380	
Met Val Leu Asp 2385	Val Glu Phe 2390	Leu Tyr His	Leu Leu 2395	Tyr Leu Leu Ile 2400
Cys Ala Met Gly	Leu Phe Val 2405	His Glu Phe	-	Ser Leu Leu Leu 2415
Phe Asp Leu Val 2420		Glu Thr Let 2425	ı Leu Asn	Val Ile Lys Ser 2430
Val Thr Arg Asn 2435	Gly Arg Pro	Ile Ile Leu 2440		Ala Leu Ala Leu 2445

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Ile Leu Val Tyr Leu Phe Ser Ile Val Gly Tyr Leu Phe Phe Lys Asp
                      2455
   2450
                                         2460
Asp Phe Ile Leu Glu Val Asp Arg Leu Pro Asn Glu Thr Ala Gly Pro
                   2470
                                      2475
Glu Thr Gly Glu Ser Leu Ala Asn Asp Phe Leu Tyr Ser Asp Val Cys
                                  2490
               2485
Arg Val Glu Thr Gly Glu Asn Cys Thr Ser Pro Ala Pro Lys Glu Glu
           2500
                              2505
Leu Leu Pro Val Glu Glu Thr Glu Gln Asp Lys Glu His Thr Cys Glu
                          2520
                                             2525
Thr Leu Leu Met Cys Ile Val Thr Val Leu Ser His Gly Leu Arg Ser
                      2535
                                         2540
Gly Gly Val Gly Asp Val Leu Arg Lys Pro Ser Lys Glu Glu Pro
                  2550
                                     2555
Leu Phe Ala Ala Arg Val Ile Tyr Asp Leu Leu Phe Phe Phe Met Val
                                2570
              2565
Ile Ile Ile Val Leu Asn Leu Ile Phe Gly Val Ile Ile Asp Thr Phe
          2580
                   2585
                                                2590
Ala Asp Leu Arg Ser Glu Lys Gln Lys Lys Glu Glu Ile Leu Lys Thr
                         2600
                                            2605
Thr Cys Phe Ile Cys Gly Leu Glu Arg Asp Lys Phe Asp Asn Lys Thr
                     2615
                                         2620
Val Thr Phe Glu Glu His Ile Lys Glu Glu His Asn Met Trp His Tyr
                  2630
                                     2635
Leu Cys Phe Ile Val Leu Val Lys Val Lys Asp Ser Thr Glu Tyr Thr
              2645
                                 2650
Gly Pro Glu Ser Tyr Val Ala Glu Met Ile Arg Glu Arg Asn Leu Asp
          2660
                             2665
Trp Phe Pro Arg Met Arg Ala Met Ser Leu Val Ser Ser Asp Ser Glu
                         2680
                                   2685
Gly Glu Gln Asn Glu Leu Arg Asn Leu Gln Glu Lys Leu Glu Ser Thr
                     2695
                                         2700
Met Lys Leu Val Thr Asn Leu Ser Gly Gln Leu Ser Glu Leu Lys Asp
                  2710
                                     2715
Gln Met Thr Glu Gln Arg Lys Gln Lys Gln Arg Ile Gly Leu Leu Gly
                                 2730
His Pro Pro His Met Asn Val Asn Pro Gln Gln Pro Ala
           2740
                              2745
```

```
<210> 15
<211> 2710
<212> PRT
<213> Artificial Sequence
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<223> Description of Artificial Sequence:/note = synthetic construct

Met Ser Asp Lys Met Ser Ser Phe Leu His Ile Gly Asp Ile Cys Ser 10 Leu Tyr Ala Glu Gly Ser Thr Asn Gly Phe Ile Ser Thr Leu Gly Leu 20 25 Val Asp Asp Arg Cys Val Val Gln Pro Glu Ala Gly Asp Leu Asn Asn 40 Pro Pro Lys Lys Phe Arg Asp Cys Leu Phe Lys Leu Cys Pro Met Asn 55 Arg Tyr Ser Ala Gln Lys Gln Phe Trp Lys Ala Ala Lys Pro Gly Ala 70 75 Asn Ser Thr Thr Asp Ala Val Leu Leu Asn Lys Leu His His Ala Ala

				85					90					95	
Asp	Leu	Glu	Lys 100	Lys	Gln	Asn	Glu	Thr 105	Glu	Asn	Arg	Lys	Leu 110	Leu	Gly
Thr	Val	Ile 115	Gln	Tyr	Gly	Asn	Val 120	Ile	Gln	Leu	Leu	His 125	Leu	Lys	Ser
Asn	Lys 130	Tyr	Leu	Thr	Val	Asn 135	Lys	Arg	Leu	Pro	Ala 140	Leu	Leu	Glu	Lys
Asn 145	Ala	Met	Arg	Val	Thr 150	Leu	Asp	Glu	Ala	Gly 155	Asn	Glu	Gly	Ser	Trp 160
Phe	Tyr	Ile	Gln	Pro 165	Phe	Tyr	Lys	Leu	Arg 170	Ser	Ile	Gly	Asp	Ser 175	Val
Val	Ile	Gly	Asp 180	Lys	Val	Val	Leu	Asn 185	Pro	Val	Asn	Ala	Gly 190	Gln	Pro
Leu	His	Ala 195	Ser	Ser	His	Gln	Leu 200	Val	Asp	Asn	Pro	Gly 205	Cys	Asn	Glu
	210		Val			215				_	220				
225			Asp		230					235			_		240
_			His	245				_	250			_	_	255	
_	_	_	Gln 260					265			_		270		
		275	Thr			-	280		_			285			
	290		Cys			295					300				
305			Leu		310					315					320
_			Glu	325	_				330				_	335	_
			Ser 340					345					350		
		355	Val				360					365			
	370		Pro			375					380				_
385			Val		390.					395			_		400
			Ile	405					410					415	
			Thr 420					425					430		
		435	Ser Val				440					445			_
	450	_	Asn		_	455			_		460		_	_	
465			Val		470					475				_	480
	-		Ser	485	_	_			490	_		_		495	
			500 Leu	-			_	505	_		•		510	-	
		515	Asp	-			520	_				525			
	530		Pro	-		535					540				
545			Gln		550					555					560
9			CIII	565	Top	- 7 -	*****	Lys	570	CIII	JIU	- 7 7	110	575	273

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Gln Phe Gly Phe Met Gln Lys Gln Ile Gly Tyr Asp Val Leu Ala Glu
Asp Thr Ile Thr Ala Leu Leu His Asn Asn Arg Lys Leu Leu Glu Lys
                           600
His Ile Thr Ala Ala Glu Ile Asp Thr Phe Val Ser Leu Val Arg Lys
                       615
                                            620
Asn Arg Glu Pro Arg Phe Leu Asp Tyr Leu Ser Asp Leu Cys Val Ser
                                       635
                   630
Met Asn Lys Ser Ile Pro Val Thr Gln Glu Leu Ile Cys Lys Ala Val
               645
                                   650
Leu Asn Pro Thr Asn Ala Asp Ile Leu Ile Glu Thr Lys Leu Val Leu
                               665
Ser Arg Phe Glu Phe Glu Gly Val Ser Thr Gly Glu Asn Ala Leu Glu
                           680
Ala Gly Glu Asp Glu Glu Glu Val Trp Leu Phe Trp Arg Asp Ser Asn
                                           700
                       695
Lys Glu Ile Arg Ser Lys Ser Val Arg Glu Leu Ala Gln Asp Ala Lys
                   710
Glu Gly Gln Lys Glu Asp Arg Asp Val Leu Ser Tyr Tyr Arg Tyr Gln
                                   730
Leu Asn Leu Phe Ala Arg Met Cys Leu Asp Arg Gln Tyr Leu Ala Ile
                               745
Asn Glu Ile Ser Gly Gln Leu Asp Val Asp Leu Ile Leu Arg Cys Met
                           760
Ser Asp Glu Asn Leu Pro Tyr Asp Leu Arg Ala Ser Phe Cys Arg Leu
                       775
                                           780
Met Leu His Met His Val Asp Arg Asp Pro Gln Glu Gln Val Thr Pro
                   790
                                       795
Val Lys Tyr Ala Arg Leu Trp Ser Glu Ile Pro Ser Glu Ile Ala Ile
               805
                                   810
Asp Asp Tyr Asp Ser Ser Gly Ala Ser Lys Asp Glu Ile Lys Glu Arg
                               825
           820
Phe Ala Gln Thr Met Glu Phe Val Glu Glu Tyr Leu Arg Asp Val Val
                           840
Cys Gln Arg Phe Pro Phe Ser Asp Lys Glu Lys Asn Lys Leu Thr Phe
                       855
                                           860
Glu Val Val Asn Leu Ala Arg Asn Leu Ile Tyr Phe Gly Phe Tyr Asn
                   870
                                       875
Phe Ser Asp Leu Leu Arg Leu Thr Lys Ile Leu Leu Ala Ile Leu Asp
                                   890
               885
Cys Val His Val Thr Thr Ile Phe Pro Ile Ser Lys Met Thr Lys Gly
           900
                               905
Glu Glu Asn Lys Gly Ser Asn Val Met Arg Ser Ile His Gly Val Gly
                           920
                                               925
Glu Leu Met Thr Gln Val Val Leu Arg Gly Gly Phe Leu Pro Met
                       935
                                           940
Thr Pro Met Ala Ala Ala Pro Glu Gly Asn Val Lys Gln Ala Glu Pro
                   950
                                       955
Glu Lys Glu Asp Ile Met Val Met Asp Thr Lys Leu Lys Ile Ile Glu
                                   970
               965
Ile Leu Gln Phe Ile Leu Asn Val Arg Leu Asp Tyr Arg Ile Ser Cys
           980
                               985
Leu Leu Cys Ile Phe Lys Arg Glu Phe Asp Glu Ser Asn Ser Gln Ser
                           1000
Ser Glu Thr Ser Ser Gly Asn Ser Ser Gln Glu Gly Pro Ser Asn Val
                       1015
Pro Gly Ala Leu Asp Phe Glu His Ile Glu Glu Gln Ala Glu Gly Ile
                   1030
                                       1035
Phe Gly Gly Ser Glu Glu Asn Thr Pro Leu Asp Leu Asp Asp His Gly
                            1050
Gly Arg Thr Phe Leu Arg Val Leu Leu His Leu Thr Met His Asp Tyr
```

```
1060
                          1065
Pro Pro Leu Val Ser Gly Ala Leu Gln Leu Leu Phe Arg His Phe Ser
      1075
                       1080
Gln Arg Gln Glu Val Leu Gln Ala Phe Lys Gln Val Gln Leu Leu Val
                   1095
                                     1100
Thr Ser Gln Asp Val Asp Asn Tyr Lys Gln Ile Lys Gln Asp Leu Asp
                1110
                                 1115
Gln Leu Arg Ser Ile Val Glu Lys Ser Glu Leu Trp Val Tyr Lys Gly
             1125
                              1130
Gln Gly Pro Asp Glu Pro Met Asp Gly Ala Ser Gly Glu Asn Glu His
          1140
                          1145
Lys Lys Thr Glu Glu Gly Thr Ser Lys Pro Leu Lys His Glu Ser Thr
                       1160 1165
Ser Ser Tyr Asn Tyr Arg Val Val Lys Glu Ile Leu Ile Arg Leu Ser
                    1175
                                     1180
Lys Leu Cys Val Gln Glu Ser Ala Ser Val Arg Lys Ser Arg Lys Gln
                1190
                                 1195
Gln Gln Arg Leu Leu Arg Asn Met Gly Ala His Ala Val Val Leu Glu
             1205
                              1210
Leu Leu Gln Ile Pro Tyr Glu Lys Ala Glu Asp Thr Lys Met Gln Glu
                           1225 1230
          1220
Ile Met Arg Leu Ala His Glu Phe Leu Gln Asn Phe Cys Ala Gly Asn
                       1240
                                        1245
Gln Gln Asn Gln Ala Leu Leu His Lys His Ile Asn Leu Phe Leu Asn
                    1255
                                     1260
Pro Gly Ile Leu Glu Ala Val Thr Met Gln His Ile Phe Met Asn Asn
                1270 1275
Phe Gln Leu Cys Ser Glu Ile Asn Glu Arg Val Val Gln His Phe Val
                             1290
             1285
His Cys Ile Glu Thr His Gly Arg Asn Val Gln Tyr Ile Lys Phe Leu
                1305
          1300
                                           1310
Gln Thr Ile Val Lys Ala Glu Gly Lys Phe Ile Lys Lys Cys Gln Asp
                      1320
                              1325
Met Val Met Ala Glu Leu Val Asn Ser Gly Glu Asp Val Leu Val Phe
                    1335
                                    1340
Tyr Asn Asp Arg Ala Ser Phe Gln Thr Leu Ile Gln Met Met Arg Ser
1345 1350 1355
Glu Arg Asp Arg Met Asp Glu Asn Ser Pro Leu Phe Met Tyr His Ile
            1365 1370 1375
His Leu Val Glu Leu Leu Ala Val Cys Thr Glu Gly Lys Asn Val Tyr
                          1385 1390
          1380
Thr Glu Ile Lys Cys Asn Ser Leu Leu Pro Leu Asp Asp Ile Val Arq
             1400 1405
Val Val Thr His Glu Asp Cys Ile Pro Glu Val Lys Ile Ala Tyr Ile
                  1415 1420
Asn Phe Leu Asn His Cys Tyr Val Asp Thr Glu Val Glu Met Lys Glu
      1430 1435
Ile Tyr Thr Ser Asn His Met Trp Lys Leu Phe Glu Asn Phe Leu Val
             1445
                             1450
Asp Ile Cys Arg Ala Cys Asn Asn Thr Ser Asp Arg Lys His Ala Asp
                          1465
Ser Val Leu Glu Lys Tyr Val Thr Glu Ile Val Met Ser Ile Val Thr
                       1480
Thr Phe Phe Ser Ser Pro Phe Ser Asp Gln Ser Thr Thr Leu Gln Thr
                    1495
                                    1500
Arg Gln Pro Val Phe Val Gln Leu Leu Gln Gly Val Phe Arg Val Tyr
                1510
                                 1515
His Cys Asn Trp Leu Met Pro Ser Gln Lys Ala Ser Val Glu Ser Cys
                             1530
            1525
Ile Arg Val Leu Ser Asp Val Ala Lys Ser Arg Ala Ile Ala Ile Pro
          1540
                           1545
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Val Asp Leu Asp Ser Gln Val Asn Asn Leu Phe Leu Lys Ser His Asn
                      1560
Ile Val Gln Lys Thr Ala Met Asn Trp Arg Leu Ser Ala Arg Asn Ala
                                   1580
                  1575
Ala Arg Arg Asp Glu Val Leu Ala Ala Ser Arg Asp Tyr Arg Asn Ile
                        1595
               1590
Ile Glu Arg Leu Gln Asp Ile Val Ser Ala Leu Glu Asp Arg Leu Arg
                             1610
            1605
Pro Leu Val Gln Ala Glu Leu Ser Val Leu Val Asp Val Leu His Arg
                         1625
         1620
Pro Glu Leu Leu Phe Pro Glu Asn Thr Asp Ala Arg Arg Lys Cys Glu
             1640
Ser Gly Gly Phe Ile Cys Lys Leu Ile Lys His Thr Lys Gln Leu Leu
          1655
                                   1660
Glu Glu Asn Glu Glu Lys Leu Cys Ile Lys Val Leu Gln Thr Leu Arg
                                1675
       1670
Glu Met Met Thr Lys Asp Arg Gly Tyr Gly Glu Lys Gly Glu Ala Leu
          1685
                             1690
Arg Gln Ile Leu Val Asn Arg Tyr Tyr Gly Asn Ile Arg Pro Ser Gly
                 1705
         1700
Arg Arg Glu Asp Leu Thr Ser Phe Gly Asn Gly Pro Leu Ser Pro Gly
                                       1725
      1715
             1720
Gly Pro Ser Lys Pro Gly Gly Gly Gly Gly Pro Gly Ser Gly Ser
                                    1740
         1735
Thr Ser Arg Gly Glu Met Ser Leu Ala Glu Val Gln Cys His Leu Asp
                       1755
       1750
Lys Glu Gly Ala Ser Asn Leu Val Ile Asp Leu Ile Met Asn Ala Ser
             1765 1770
Ser Asp Arg Val Phe His Glu Ser Ile Leu Leu Ala Ile Ala Leu Leu
                                          1790
                1785
         1780
Glu Gly Gly Asn Thr Thr Ile Gln His Ser Phe Phe Cys Arg Leu Thr
      1795 1800 1805
Glu Asp Lys Lys Ser Glu Lys Phe Phe Lys Val Phe Tyr Asp Arg Met
   1810 1815
                                   1820
Lys Val Ala Gln Gln Glu Ile Lys Ala Thr Val Thr Val Asn Thr Ser
                1830 1835 1840
Asp Leu Gly Asn Lys Lys Lys Asp Asp Glu Val Asp Arg Asp Ala Pro
             1845
                             1850
Ser Arg Lys Lys Ala Lys Glu Pro Thr Thr Gln Ile Thr Glu Glu Val
                                 1870
              1865
Arg Asp Gln Leu Leu Glu Ala Ser Ala Ala Thr Arg Lys Ala Phe Thr
                      1880
                                       1885
Thr Phe Arg Arg Glu Ala Asp Pro Asp Asp His Tyr Gln Ser Gly Glu
                   1895
                                    1900
Gly Thr Gln Ala Thr Thr Asp Lys Ala Lys Asp Asp Leu Glu Met Ser
                1910
                     1915
Ala Val Ile Thr Ile Met Gln Pro Ile Leu Arg Phe Leu Gln Leu Leu
             1925
                             1930
Cys Glu Asn His Asn Arg Asp Leu Gln Asn Phe Leu Arg Cys Gln Asn
         1940
                          1945
Asn Lys Thr Asn Tyr Asn Leu Val Cys Glu Thr Leu Gln Phe Leu Asp
                      1960
      1955
Cys Ile Cys Gly Ser Thr Thr Gly Gly Leu Gly Leu Gly Leu Tyr
         1975
                                    1980
Ile Asn Glu Lys Asn Val Ala Leu Ile Asn Gln Thr Leu Glu Ser Leu
     1990 1995
Thr Glu Tyr Cys Gln Gly Pro Cys His Glu Asn Gln Asn Cys Ile Ala
             2005 2010
Thr His Glu Ser Asn Gly Ile Asp Ile Ile Thr Ala Leu Ile Leu Asn
          2020
                          2025 2030
Asp Ile Asn Pro Leu Gly Lys Lys Arg Met Asp Leu Val Leu Glu Leu
```

		203	5				2040	)				2049	5		
Lys	Asn 205		Ala	Ser	Lys	Leu 205		Leu	Ala	Ile	Met 2060		Ser	Arg	His
	Ser	Glu	Asn	Ala			Ile	Leu	Tyr			Arg	Pro	Lys	
206		Glu	Wa I	т1а	2070		ת [ ת	Tr 120	Mot	207		<b>C</b> 1	1707	<b>a</b> 1	2080 Dha
	. Val			2085	5				2090	C	_			2099	5
	Asp		2100	)				2109	5				2110	)	
	His	211	5				2120	)				2125	5		_
	Leu 213	0				2139	5				2140	)			
Ala 214	Leu 5	Glu	Phe	Tyr	Ala 2150		His	Thr	Ala	Gln 215		Glu	Ile	Val	Arg 2160
Leu	Asp	Arg	Thr	Met 2169		Gln	Ile	Val	Phe 2170		Val	Pro	Ser	Ile 2175	
Glu	Phe	Leu	Thr 2180		Glu	Ser	Lys	Leu 2185		Ile	Tyr	Tyr	Thr 2190		Glu
Arg	Asp	Glu 219		Gly	Ser	Lys	Ile 2200		Asp	Phe	Phe	Leu 2205		Ser	Glu
Asp	Leu 221		Asn	Glu	Met	Asn 2215		Gln	Lys	Lys	Leu 2220		Ala	Gln	Pro
Val 222	Leu 5	Tyr	Trp	Cys	Ala 2230		Asn	Met	Ser	Phe 2235		Ser	Ser	Ile	Ser 2240
Phe	Asn	Leu	Ala	Val 2245		Met	Asn	Leu	Leu 2250		Ala	Phe	Phe	Tyr 2255	
Phe	Lys	Gly	Val 2260		Gly	Gly	Thr	Leu 2265		Pro	His	Trp	Ser 2270	_	Leu
Leu	Trp	Thr 2279		Met	Leu	Ile	Ser 2280		Ala	Ile	Val	Ile 2285		Leu	Pro
Lys	Pro 229		Gly	Ile	Arg	Ala 2295		Ile	Ala	Ser	Thr 2300		Leu	Arg	Leu
230					2310	)				2315	5		_		2320
	Val			2325	5				2330	)			_	2335	;
	Thr		2340	)	-		_	2345	5			-	2350	)	
	Tyr	2355	5				2360	)				2365	5 .		
	Glu 2370	)				2375	5				2380	)			
G1u 238	Thr	Leu	Leu	Asn	Val 2390		Lys	Ser	Val	Thr 2395		Asn	Gly	Arg	
	Ile	Leu	Thr	Ala 2405	Ala		Ala	Leu	Ile 2410	Leu		Tyr	Leu	Phe 2415	
Ile	Val	Gly	Tyr 2420	Leu		Phe	Lys	Asp 2425	Asp		Ile	Leu		Val	
Arg	Leu	Pro 2435	Asn		Thr	Ala	Gly 2440	Pro		Thr	Gly	Glu 2445			Ala
Asn	Asp 2450	Phe		Tyr	Ser	Asp 2455	Val		Arg	Val	Glu 2460	Thr		Glu	Asn
Cys 246	Thr		Pro	Ala	Pro 2470	Lys		Glu	Leu	Leu 2475	Pro		Glu	Glu	
	Gln	Asp	Lys	Glu 2485	His		Cys	Glu	Thr 2490	Leu		Met	Cys	Ile 2495	
Thr	Val	Leu	Ser 2500	His		Leu	Arg	Ser 2505	Gly		Gly	Val	Gly 2510	Asp	
Leu	Arg	Lys 2515	Pro		Lys	Glu	Glu 2520	Pro		Phe	Ala	Ala 2525	Arg		Ile

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Tyr Asp Leu Leu Phe Phe Phe Met Val Ile Ile Val Leu Asn Leu
    2530
                       2535
                                            2540
Ile Phe Gly Val Ile Ile Asp Thr Phe Ala Asp Leu Arg Ser Glu Lys
                    2550
                                        2555
Gln Lys Lys Glu Glu Ile Leu Lys Thr Thr Cys Phe Ile Cys Gly Leu
                2565
                                   2570
Glu Arg Asp Lys Phe Asp Asn Lys Thr Val Thr Phe Glu Glu His Ile
            2580
                                2585
Lys Glu Glu His Asn Met Trp His Tyr Leu Cys Phe Ile Val Leu Val
                           2600
Lys Val Lys Asp Ser Thr Glu Tyr Thr Gly Pro Glu Ser Tyr Val Ala
                       2615
                                            2620
Glu Met Ile Arg Glu Arg Asn Leu Asp Trp Phe Pro Arg Met Arg Ala
                   2630
                                       2635
Met Ser Leu Val Ser Ser Asp Ser Glu Gly Glu Gln Asn Glu Leu Arg
               2645
                                   2650
Asn Leu Gln Glu Lys Leu Glu Ser Thr Met Lys Leu Val Thr Asn Leu
                               2665
           2660
Ser Gly Gln Leu Ser Glu Leu Lys Asp Gln Met Thr Glu Gln Arg Lys
                           2680
                                               2685
Gln Lys Gln Arg Ile Gly Leu Leu Gly His Pro Pro His Met Asn Val
                       2695
                                            2700
Asn Pro Gln Gln Pro Ala
                   2710
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<210> 16

<211> 2749

<212> PRT

<213> Artificial Sequence

<220>

<400> 16

Met Ser Asp Lys Met Ser Ser Phe Leu His Ile Gly Asp Ile Cys Ser 10 Leu Tyr Ala Glu Gly Ser Thr Asn Gly Phe Ile Ser Thr Leu Gly Leu 20 25 Val Asp Asp Arg Cys Val Val Gln Pro Glu Ala Gly Asp Leu Asn Asn 40 Pro Pro Lys Lys Phe Arg Asp Cys Leu Phe Lys Leu Cys Pro Met Asn 55 60 Arg Tyr Ser Ala Gln Lys Gln Phe Trp Lys Ala Ala Lys Pro Gly Ala 70 75 Asn Ser Thr Thr Asp Ala Val Leu Leu Asn Lys Leu His His Ala Ala 85 90 Asp Leu Glu Lys Lys Gln Asn Glu Thr Glu Asn Arg Lys Leu Leu Gly 100 105 Thr Val Ile Gln Tyr Gly Asn Val Ile Gln Leu Leu His Leu Lys Ser 120 Asn Lys Tyr Leu Thr Val Asn Lys Arg Leu Pro Ala Leu Leu Glu Lys 130 135 Asn Ala Met Arg Val Thr Leu Asp Glu Ala Gly Asn Glu Gly Ser Trp 150 155 Phe Tyr Ile Gln Pro Phe Tyr Lys Leu Arg Ser Ile Gly Asp Ser Val 170 Val Ile Gly Asp Lys Val Val Leu Asn Pro Val Asn Ala Gly Gln Pro 185 190 Leu His Ala Ser Ser His Gln Leu Val Asp Asn Pro Gly Cys Asn Glu

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200
                                               205
       195
Val Asn Ser Val Asn Cys Asn Thr Ser Trp Lys Ile Val Leu Phe Met
                                           220
                       215
Lys Trp Ser Asp Asn Lys Asp Asp Ile Leu Lys Gly Gly Asp Val Val
                230
                                       235
Arg Leu Phe His Ala Glu Glu Lys Phe Leu Thr Cys Asp Glu His
                                   250
Arg Lys Lys Gln His Val Phe Leu Arg Thr Thr Gly Arg Gln Ser Ala
                               265
Thr Ser Ala Thr Ser Ser Lys Ala Leu Trp Glu Val Glu Val Val Gln
                           280
His Asp Pro Cys Arg Gly Gly Ala Gly Tyr Trp Asn Ser Leu Phe Arg
                       295
                                           300
Phe Lys His Leu Ala Thr Gly His Tyr Leu Ala Ala Glu Val Asp Pro
                   310
                                        315
Asp Phe Glu Glu Glu Cys Leu Glu Phe Gln Pro Ser Val Asp Pro Asp
               325
                                   330
Gln Asp Ala Ser Arg Ser Arg Leu Arg Asn Ala Gln Glu Lys Met Val
           340
                               345
Tyr Ser Leu Val Ser Val Pro Glu Gly Asn Asp Ile Ser Ser Ile Phe
                           360
Glu Leu Asp Pro Thr Thr Leu Arg Gly Gly Asp Ser Leu Val Pro Arg
                       375
                                           380
Asn Ser Tyr Val Arg Leu Arg His Leu Cys Thr Asn Thr Trp Val His
                   390
                                       395
Ser Thr Asn Ile Pro Ile Asp Lys Glu Glu Lys Pro Val Met Leu
               405
                                   410
Lys Ile Gly Thr Ser Pro Leu Lys Glu Asp Lys Glu Ala Phe Ala Ile
           420
                               425
Val Pro Val Ser Pro Ala Glu Val Arg Asp Leu Asp Phe Ala Asn Asp
                            440
Ala Ser Lys Val Leu Gly Ser Ile Ala Gly Lys Leu Glu Lys Gly Thr
                       455
Ile Thr Gln Asn Glu Arg Arg Ser Val Thr Lys Leu Leu Glu Asp Leu
                   470
                                        475
Val Tyr Phe Val Thr Gly Gly Thr Asn Ser Gly Gln Asp Val Leu Glu
                                   490
               485
Val Val Phe Ser Lys Pro Asn Arg Glu Arg Gln Lys Leu Met Arg Glu
                                505
Gln Asn Ile Leu Lys Gln Ile Phe Lys Leu Leu Gln Ala Pro Phe Thr
                            520
Asp Cys Gly Asp Gly Pro Met Leu Arg Leu Glu Glu Leu Gly Asp Gln
                       535
                                            540
Arg His Ala Pro Phe Arg His Ile Cys Arg Leu Cys Tyr Arg Val Leu
                   550
                                       555
Arg His Ser Gln Gln Asp Tyr Arg Lys Asn Gln Glu Tyr Ile Ala Lys
               565
                                  570
Gln Phe Gly Phe Met Gln Lys Gln Ile Gly Tyr Asp Val Leu Ala Glu
           580
                                585
Asp Thr Ile Thr Ala Leu Leu His Asn Asn Arg Lys Leu Leu Glu Lys
                            600
His Ile Thr Ala Ala Glu Ile Asp Thr Phe Val Ser Leu Val Arg Lys
                       615
                                            620
Asn Arg Glu Pro Arg Phe Leu Asp Tyr Leu Ser Asp Leu Cys Val Ser
                   630
                                       635
Met Asn Lys Ser Ile Pro Val Thr Gln Glu Leu Ile Cys Lys Ala Val
               645
                                   650
Leu Asn Pro Thr Asn Ala Asp Ile Leu Ile Glu Thr Lys Leu Val Leu
                               665
Ser Arg Phe Glu Phe Glu Gly Val Ser Thr Gly Glu Asn Ala Leu Glu
                            680
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Ala Gly Glu Asp Glu Glu Glu Val Trp Leu Phe Trp Arg Asp Ser Asn
                       695
Lys Glu Ile Arg Ser Lys Ser Val Arg Glu Leu Ala Gln Asp Ala Lys
                                      715
                   710
Glu Gly Gln Lys Glu Asp Arg Asp Val Leu Ser Tyr Tyr Arg Tyr Gln
              725
                                  730
Leu Asn Leu Phe Ala Arg Met Cys Leu Asp Arg Gln Tyr Leu Ala Ile
                              745
Asn Glu Ile Ser Gly Gln Leu Asp Val Asp Leu Ile Leu Arg Cys Met
                          760
Ser Asp Glu Asn Leu Pro Tyr Asp Leu Arg Ala Ser Phe Cys Arg Leu
                      775
Met Leu His Met His Val Asp Arg Asp Pro Gln Glu Gln Val Thr Pro
                  790
                                      795
Val Lys Tyr Ala Arg Leu Trp Ser Glu Ile Pro Ser Glu Ile Ala Ile
                                  810
              805
Asp Asp Tyr Asp Ser Ser Gly Ala Ser Lys Asp Glu Ile Lys Glu Arg
          820
                              825
Phe Ala Gln Thr Met Glu Phe Val Glu Glu Tyr Leu Arg Asp Val Val
                          840
Cys Gln Arg Phe Pro Phe Ser Asp Lys Glu Lys Asn Lys Leu Thr Phe
                      855
                                          860
Glu Val Val Asn Leu Ala Arg Asn Leu Ile Tyr Phe Gly Phe Tyr Asn
                  870
                                      875
Phe Ser Asp Leu Leu Arg Leu Thr Lys Ile Leu Leu Ala Ile Leu Asp
              885
                                  890
Cys Val His Val Thr Thr Ile Phe Pro Ile Ser Lys Met Thr Lys Gly
                              905
           900
Glu Glu Asn Lys Gly Ser Asn Val Met Arg Ser Ile His Gly Val Gly
                          920
                                              925
Glu Leu Met Thr Gln Val Val Leu Arg Gly Gly Phe Leu Pro Met
                      935
                                          940
Thr Pro Met Ala Ala Ala Pro Glu Gly Asn Val Lys Gln Ala Glu Pro
                  950
                                   955
Glu Lys Glu Asp Ile Met Val Met Asp Thr Lys Leu Lys Ile Ile Glu
              965
                                  970
Ile Leu Gln Phe Ile Leu Asn Val Arg Leu Asp Tyr Arg Ile Ser Cys
          980
                              985
                                                  990
Leu Leu Cys Ile Phe Lys Arg Glu Phe Asp Glu Ser Asn Ser Gln Ser
                          1000
                                              1005
Ser Glu Thr Ser Ser Gly Asn Ser Ser Gln Glu Gly Pro Ser Asn Val
                      1015
                                          1020
Pro Gly Ala Leu Asp Phe Glu His Ile Glu Glu Gln Ala Glu Gly Ile
                  1030
                                      1035
Phe Gly Gly Ser Glu Glu Asn Thr Pro Leu Asp Leu Asp His Gly
               1045
                                  1050
Gly Arg Thr Phe Leu Arg Val Leu Leu His Leu Thr Met His Asp Tyr
                              1065
Pro Pro Leu Val Ser Gly Ala Leu Gln Leu Leu Phe Arg His Phe Ser
                           1080
Gln Arg Gln Glu Val Leu Gln Ala Phe Lys Gln Val Gln Leu Leu Val
                      1095
                                          1100
Thr Ser Gln Asp Val Asp Asn Tyr Lys Gln Ile Lys Gln Asp Leu Asp
                  1110
                                      1115
Gln Leu Arg Ser Ile Val Glu Lys Ser Glu Leu Trp Val Tyr Lys Gly
                                  1130
               1125
Gln Gly Pro Asp Glu Pro Met Asp Gly Ala Ser Gly Glu Asn Glu His
                              1145
                                                 1150
           1140
Lys Lys Thr Glu Glu Gly Thr Ser Lys Pro Leu Lys His Glu Ser Thr
                          1160
                                              1165
Ser Ser Tyr Asn Tyr Arg Val Val Lys Glu Ile Leu Ile Arg Leu Ser
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1170	117	5	118	0
Lys Leu Cys Val 1185	Gln Glu Ser 1190	Ala Ser V	al Arg Lys 1195	Ser Arg Lys Gln 1200
				Val Val Leu Glu 1215
Leu Leu Gln Ile	Pro Tyr Glu			Lys Met Gln Glu 1230
			ln Asn Phe	Cys Ala Gly Asn
	Ala Leu Leu 125	His Lys H	is Ile Asn 126	Leu Phe Leu Asn
Pro Gly Ile Leu	Glu Ala Val			Phe Met Asn Asn 1280
1265 Phe Gln Leu Cys	1270 Ser Glu Ile 1285		rg Val Val	Gln His Phe Val
His Cys Ile Glu 1300	Thr His Gly		.290 'al Gln Tyr	: Ile Lys Phe Leu 1310
				Lys Cys Gln Asp
	Glu Leu Val	Asn Ser G		Val Leu Val Phe
				Met Met Arg Ser
1345	1350 Met Asp Glu	Asn Ser D	1355 Pro Leu Phe	1360 Met Tyr His Ile
	1365	1	.370	1375
1386	)	1385		y Lys Asn Val Tyr 1390
Thr Glu Ile Lys 1395	Cys Asn Ser	Leu Leu P 1400	ro Leu Asp	Asp Ile Val Arg 1405
Val Val Thr His	Glu Asp Cys	Ile Pro G	lu Val Lys	: Ile Ala Tyr Ile
1410	141		142	
			142	0 . Glu Met Lys Glu 1440
Asn Phe Leu Asn 1425	His Cys Tyr 1430	Val Asp T	142 hr Glu Val 1435	. Glu Met Lys Glu
Asn Phe Leu Asn 1425 Ile Tyr Thr Ser	His Cys Tyr 1430 Asn His Met 1445 Ala Cys Asn	Val Asp T Trp Lys L	142 Thr Glu Val 1435 Leu Phe Glu 1450	. Glu Met Lys Glu 1440 1 Asn Phe Leu Val
Asn Phe Leu Asn 1425 Ile Tyr Thr Ser Asp Ile Cys Arg 1460	His Cys Tyr 1430 Asn His Met 1445 Ala Cys Asn	Val Asp T Trp Lys L 1 Asn Thr S 1465	142 Thr Glu Val 1435 Leu Phe Glu 450 Ser Asp Arg	. Glu Met Lys Glu 1440 1 Asn Phe Leu Val 1455 3 Lys His Ala Asp
Asn Phe Leu Asn 1425 Ile Tyr Thr Ser Asp Ile Cys Arg 1460 Ser Val Leu Glu 1475	His Cys Tyr 1430 Asn His Met 1445 Ala Cys Asn O Lys Tyr Val	Val Asp T Trp Lys L Asn Thr S 1465 Thr Glu I 1480 Ser Asp G	142 Chr Glu Val 1435 Leu Phe Glu 450 Ger Asp Arg	Glu Met Lys Glu 1440 1 Asn Phe Leu Val 1455 2 Lys His Ala Asp 1470 2 Ser Ile Val Thr 1485 3 Thr Leu Gln Thr
Asn Phe Leu Asn 1425 Ile Tyr Thr Ser Asp Ile Cys Arg 1460 Ser Val Leu Glu 1475 Thr Phe Phe Ser 1490	His Cys Tyr 1430 Asn His Met 1445 Ala Cys Asn U Lys Tyr Val Ser Pro Phe 149 Phe Val Gln	Val Asp T Trp Lys L 1 Asn Thr S 1465 Thr Glu I 1480 Ser Asp G	142 Chr Glu Val 1435 Seu Phe Glu 450 Ser Asp Arg The Val Met	Glu Met Lys Glu 1440 1 Asn Phe Leu Val 1455 2 Lys His Ala Asp 1470 2 Ser Ile Val Thr 1485 3 Thr Leu Gln Thr
Asn Phe Leu Asn 1425 Ile Tyr Thr Ser Asp Ile Cys Arg 1460 Ser Val Leu Glu 1475 Thr Phe Phe Ser 1490 Arg Gln Pro Val	His Cys Tyr 1430 Asn His Met 1445 Ala Cys Asn Lys Tyr Val Ser Pro Phe 149 Phe Val Gln 1510 Leu Met Pro	Val Asp T Trp Lys L 1 Asn Thr S 1465 Thr Glu I 1480 Ser Asp G 5 Leu Leu G Ser Gln L	142 Chr Glu Val 1435 Leu Phe Glu 450 Ser Asp Arg Lle Val Met Sln Ser Thr 150 Sln Gly Val 1515 Lys Ala Ser	Glu Met Lys Glu 1440 1 Asn Phe Leu Val 1455 2 Lys His Ala Asp 1470 2 Ser Ile Val Thr 1485 3 Thr Leu Gln Thr 100 4 Phe Arg Val Tyr 1520 5 Val Glu Ser Cys
Asn Phe Leu Asn 1425 Ile Tyr Thr Ser Asp Ile Cys Arg 1466 Ser Val Leu Glu 1475 Thr Phe Phe Ser 1490 Arg Gln Pro Val 1505 His Cys Asn Trp Ile Arg Val Leu	His Cys Tyr 1430 Asn His Met 1445 Ala Cys Asn Cys Tyr Val Ser Pro Phe 149 Phe Val Gln 1510 Leu Met Pro 1525 Ser Asp Val	Val Asp T Trp Lys L 1 Asn Thr S 1465 Thr Glu I 1480 Ser Asp G 5 Leu Leu G Ser Gln L 1 Ala Lys S	142 Chr Glu Val 1435 Leu Phe Glu 450 Ger Asp Arg Lle Val Met Sln Ser Thr 150 Gln Gly Val 1515 Lys Ala Ser	Glu Met Lys Glu  1440  1 Asn Phe Leu Val  1455  1 Lys His Ala Asp  1470  2 Ser Ile Val Thr  1485  3 Thr Leu Gln Thr  100  4 Phe Arg Val Tyr  1520  5 Val Glu Ser Cys  1535  4 Ile Ala Ile Pro
Asn Phe Leu Asn 1425 Ile Tyr Thr Ser  Asp Ile Cys Arg 1466 Ser Val Leu Glu 1475 Thr Phe Phe Ser 1490  Arg Gln Pro Val 1505 His Cys Asn Trp  Ile Arg Val Leu 1546 Val Asp Leu Asp	His Cys Tyr 1430 Asn His Met 1445 Ala Cys Asn Lys Tyr Val Ser Pro Phe 149 Phe Val Gln 1510 Leu Met Pro 1525 Ser Asp Val	Val Asp T Trp Lys L 1 Asn Thr S 1465 Thr Glu I 1480 Ser Asp G 5 Leu Leu G Ser Gln L 1 Ala Lys S 1545 Asn Asn L	The Glu Value of G	Glu Met Lys Glu  1440  1 Asn Phe Leu Val  1455  1 Lys His Ala Asp  1470  2 Ser Ile Val Thr  1485  3 Thr Leu Gln Thr  100  4 Phe Arg Val Tyr  1520  5 Val Glu Ser Cys  1535  4 Ile Ala Ile Pro  1550  6 Lys Ser His Asn
Asn Phe Leu Asn 1425 Ile Tyr Thr Ser  Asp Ile Cys Arg 1460 Ser Val Leu Glu 1475 Thr Phe Phe Ser 1490  Arg Gln Pro Val 1505 His Cys Asn Trp  Ile Arg Val Leu 1540 Val Asp Leu Asp 1555 Ile Val Gln Lys	His Cys Tyr 1430 Asn His Met 1445 Ala Cys Asn Cys Tyr Val Ser Pro Phe 149 Phe Val Gln 1510 Leu Met Pro 1525 Ser Asp Val Ser Gln Val Thr Ala Met	Val Asp T Trp Lys L 1 Asn Thr S 1465 Thr Glu I 1480 Ser Asp G 5 Leu Leu G Ser Gln L Ala Lys S 1545 Asn Asn L 1560 Asn Trp A	142 Chr Glu Val 1435 Leu Phe Glu 450 Ger Asp Arg Le Val Met Gln Ser Thr 150 Gln Gly Val 1515 Lys Ala Ser 1530 Ger Arg Ala Leu Phe Leu	Glu Met Lys Glu
Asn Phe Leu Asn 1425 Ile Tyr Thr Ser  Asp Ile Cys Arg	His Cys Tyr 1430 Asn His Met 1445 Ala Cys Asn Lys Tyr Val Ser Pro Phe 149 Phe Val Gln 1510 Leu Met Pro 1525 Ser Asp Val Ser Gln Val Thr Ala Met 157 Glu Val Leu	Val Asp T Trp Lys L 1 Asn Thr S 1465 Thr Glu I 1480 Ser Asp G 5 Leu Leu G Ser Gln L 1 Ala Lys S 1545 Asn Asn L 1560 Asn Trp A	The Clu Value of C	Glu Met Lys Glu  1440  1440  1455  1455  1470  15Ser Ile Val Thr  1485  16 Thr Leu Gln Thr  100  16 Phe Arg Val Tyr  1520  16 Val Glu Ser Cys  1535  16 Ile Ala Ile Pro  1550  16 Lys Ser His Asn  1565  16 Ala Arg Asn Ala  160  17 Arg Asn Ile
Asn Phe Leu Asn 1425 Ile Tyr Thr Ser  Asp Ile Cys Arg	His Cys Tyr 1430 Asn His Met 1445 Ala Cys Asn Lys Tyr Val Ser Pro Phe 149 Phe Val Gln 1510 Leu Met Pro 1525 Ser Asp Val Ser Gln Val Thr Ala Met 157 Glu Val Leu 1590 Gln Asp Ile	Val Asp T Trp Lys L 1 Asn Thr S 1465 Thr Glu I 1480 Ser Asp G 5 Leu Leu G Ser Gln L Ala Lys S 1545 Asn Asn L 1560 Asn Trp A 5 Ala Ala S Val Ser A	The Clu Value of C	Glu Met Lys Glu
Asn Phe Leu Asn 1425 Ile Tyr Thr Ser  Asp Ile Cys Arg	His Cys Tyr 1430 Asn His Met 1445 Ala Cys Asn Lys Tyr Val Ser Pro Phe 149 Phe Val Gln 1510 Leu Met Pro 1525 Ser Asp Val Ser Gln Val Thr Ala Met 157 Glu Val Leu 1590 Gln Asp Ile 1605 Ala Glu Leu	Val Asp T Trp Lys L 1 Asn Thr S 1465 Thr Glu I 1480 Ser Asp G 5 Leu Leu G Ser Gln L Ala Lys S 1545 Asn Asn L 1560 Asn Trp A 5 Ala Ala S Val Ser A Ser Val L	The Glu Value of the Clu Value of the Cl	Glu Met Lys Glu
Asn Phe Leu Asn 1425 Ile Tyr Thr Ser  Asp Ile Cys Arg	His Cys Tyr 1430 Asn His Met 1445 Ala Cys Asn Lys Tyr Val Ser Pro Phe 149 Phe Val Gln 1510 Leu Met Pro 1525 Ser Asp Val Ser Gln Val Thr Ala Met 157 Glu Val Leu 1590 Gln Asp Ile 1605 Ala Glu Leu	Val Asp T Trp Lys L 1 Asn Thr S 1465 Thr Glu I 1480 Ser Asp G 5 Leu Leu G Ser Gln L Ala Lys S 1545 Asn Asn L 1560 Asn Trp A 5 Ala Ala S Val Ser A Ser Val L 1625 Asn Thr A	thr Glu Val 1435 Leu Phe Glu 450 Leu Phe Glu 450 Leu Asp Arg Leu Val Met 1515 Lys Ala Ser 1530 Leu Phe Leu Arg Leu Ser 158 Leu Phe Leu Arg Leu Glu 1595 Ala Leu Glu Leu Val Asp	Glu Met Lys Glu
Asn Phe Leu Asn 1425 Ile Tyr Thr Ser  Asp Ile Cys Arg	His Cys Tyr 1430 Asn His Met 1445 Ala Cys Asn Lys Tyr Val Ser Pro Phe 149 Phe Val Gln 1510 Leu Met Pro 1525 Ser Asp Val Ser Gln Val Thr Ala Met 157 Glu Val Leu 1590 Gln Asp Ile 1605 Ala Glu Leu Phe Pro Glu	Val Asp T Trp Lys L 1 Asn Thr S 1465 Thr Glu I 1480 Ser Asp G 5 Leu Leu G Ser Gln L Ala Lys S 1545 Asn Asn L 1560 Asn Trp A 5 Ala Ala S Val Ser A 1625 Asn Thr A 1640 Leu Ile L	thr Glu Val 1435 Leu Phe Glu 450 Ser Asp Arg Le Val Met Gln Ser Thr 1515 Lys Ala Ser 1530 Ser Arg Ala Leu Phe Leu Arg Leu Ser 1585 Ala Leu Glu Leu Val Asp Asp Ala Arg	Glu Met Lys Glu

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Glu Glu Asn Glu Glu Lys Leu Cys Ile Lys Val Leu Gln Thr Leu Arg
                1670
                                 1675
Glu Met Met Thr Lys Asp Arg Gly Tyr Gly Glu Lys Gln Ile Ser Ile
                    1690
            1685
Asp Glu Leu Glu Asn Ala Glu Leu Pro Gln Pro Pro Glu Ala Glu Asn
                 1705
                                           1710
         1700
Ser Thr Glu Glu Leu Glu Pro Ser Pro Pro Leu Arg Gln Leu Glu Asp
                      1720
                                       1725
His Lys Arg Gly Glu Ala Leu Arg Gln Ile Leu Val Asn Arg Tyr Tyr
                                    1740
                   1735
Gly Asn Ile Arg Pro Ser Gly Arg Arg Glu Asp Leu Thr Ser Phe Gly
         1750
                                 1755
Asn Gly Pro Leu Ser Pro Gly Gly Pro Ser Lys Pro Gly Gly Gly Gly
            1765
                              1770
Gly Gly Pro Gly Ser Gly Ser Thr Ser Arg Gly Glu Met Ser Leu Ala
                          1785
          1780
Glu Val Gln Cys His Leu Asp Lys Glu Gly Ala Ser Asn Leu Val Ile
           1800
      1795
Asp Leu Ile Met Asn Ala Ser Ser Asp Arg Val Phe His Glu Ser Ile
          1815
                            1820
Leu Leu Ala Ile Ala Leu Leu Glu Gly Gly Asn Thr Thr Ile Gln His
1825 1830
                        1835
Ser Phe Phe Cys Arg Leu Thr Glu Asp Lys Lys Ser Glu Lys Phe Phe
                             1850
       1845
Lys Val Phe Tyr Asp Arg Met Lys Val Ala Gln Gln Glu Ile Lys Ala
       1860 1865
Thr Val Thr Val Asn Thr Ser Asp Leu Gly Asn Lys Lys Lys Asp Asp
                               1885
      1875 1880
Glu Val Asp Arg Asp Ala Pro Ser Arg Lys Lys Ala Lys Glu Pro Thr
         1895
                                    1900
Thr Gln Ile Thr Glu Glu Val Arg Asp Gln Leu Leu Glu Ala Ser Ala
      1910
                                 1915
Ala Thr Arg Lys Ala Phe Thr Thr Phe Arg Arg Glu Ala Asp Pro Asp
            1925 1930
Asp His Tyr Gln Ser Gly Glu Gly Thr Gln Ala Thr Thr Asp Lys Ala
                          1945
                                           1950
         1940
Lys Asp Asp Leu Glu Met Ser Ala Val Ile Thr Ile Met Gln Pro Ile
      1955 1960
                                        1965
Leu Arg Phe Leu Gln Leu Leu Cys Glu Asn His Asn Arg Asp Leu Gln
          1975
                                    1980
Asn Phe Leu Arg Cys Gln Asn Asn Lys Thr Asn Tyr Asn Leu Val Cys
      1990 1995
Glu Thr Leu Gln Phe Leu Asp Cys Ile Cys Gly Ser Thr Thr Gly Gly
                              2010
             2005
Leu Gly Leu Leu Gly Leu Tyr Ile Asn Glu Lys Asn Val Ala Leu Ile
         2020
                          2025
Asn Gln Thr Leu Glu Ser Leu Thr Glu Tyr Cys Gln Gly Pro Cys His
      2035 2040
                                       2045
Glu Asn Gln Asn Cys Ile Ala Thr His Glu Ser Asn Gly Ile Asp Ile
          2055
                                    2060
Ile Thr Ala Leu Ile Leu Asn Asp Ile Asn Pro Leu Gly Lys Lys Arg
                2070
                               2075
Met Asp Leu Val Leu Glu Leu Lys Asn Asn Ala Ser Lys Leu Leu Leu
             2085
                              2090
Ala Ile Met Glu Ser Arg His Asp Ser Glu Asn Ala Glu Arg Ile Leu
              2105
          2100
Tyr Asn Met Arg Pro Lys Glu Leu Val Glu Val Ile Lys Lys Ala Tyr
      2115
                       2120
                                        2125
Met Gln Gly Glu Val Glu Phe Glu Asp Gly Glu Asn Gly Glu Asp Gly
   2130 2135
                                     2140
Ala Ala Ser Pro Arg Asn Val Gly His Asn Ile Tyr Ile Leu Ala His
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2145	2150		2155	2160
Gln Leu Ala Arg			Thr Met Leu	
Gly Gln Val Asp 2180		Ala Leu Glu 2185	Phe Tyr Ala	Lys His Thr 2190
Ala Gln Ile Glu 2195	Ile Val Arg	Leu Asp Arg 2200	Thr Met Glu 2209	
Phe Pro Val Pro 2210	Ser Ile Cys 2215		Thr Lys Glu 2220	Ser Lys Leu
Arg Ile Tyr Tyr 2225	2230		. 2235	2240
Asp Phe Phe Leu	2245	225	0	2255
Lys Lys Leu Arg 2260	)	2265		2270
Ser Phe Trp Ser 2275		2280	2289	5
Leu Val Ala Phe 2290	2295	5	2300	•
Glu Pro His Trp 2305	2310	*	2315	2320
Ala Ile Val Ile	2325	233	0	2335
Ala Ser Thr Ile 2340	)	2345		2350
Leu Phe Leu Leu 2355	-	2360	2369	5
Met Ser Phe Val 2370 Met Val Leu Asp	2375	5	2380	
2385	2390		2395	2400
Cys Ala Met Gly	Leu Phe Val 2405	His Glu Phe 241	_	Leu Leu Leu 2415
Phe Asp Leu Val 2420	)	2425		2430
Val Thr Arg Asn 2435		2440	2449	5
Ile Leu Val Tyr 2450	2455	5	2460	
Asp Phe Ile Leu 2465	2470		2475	2480
Glu Thr Gly Glu	2485	249	0	2495
Arg Val Glu Thr 2500	_		Pro Ala Pro	Lys Glu Glu 2510
Leu Leu Pro Val 2515	Glu Glu Thr		Lys Glu His 252	_
Thr Leu Leu Met 2530	2535	5	2540	
Gly Gly Gly Val 2545	2550		2555	2560
Leu Phe Ala Ala	2565	257	0	2575
Ile Ile Ile Val 2580	)	2585		2590
Ala Asp Leu Arg 2595	_	2600	260	5
Thr Cys Phe Ile 2610	2619	5	2620	_
Val Thr Phe Glu 2625	Glu His Ile 2630	Lys Glu Glu	His Asn Met 2635	Trp His Tyr 2640

Leu Cys Phe Ile Val Leu Val Lys Val Lys Asp Ser Thr Glu Tyr Thr 2645 2650 Gly Pro Glu Ser Tyr Val Ala Glu Met Ile Arg Glu Arg Asn Leu Asp 2660 2665 2670 Trp Phe Pro Arg Met Arg Ala Met Ser Leu Val Ser Ser Asp Ser Glu 2680 2685 Gly Glu Gln Asn Glu Leu Arg Asn Leu Gln Glu Lys Leu Glu Ser Thr 2695 2700 Met Lys Leu Val Thr Asn Leu Ser Gly Gln Leu Ser Glu Leu Lys Asp 2710 2715 Gln Met Thr Glu Gln Arg Lys Gln Lys Gln Arg Ile Gly Leu Leu Gly 2725 2730 His Pro Pro His Met Asn Val Asn Pro Gln Gln Pro Ala 2745

<210> 17 <211> 2710 <212> PRT <213> Artificial Sequence

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:/note =
 synthetic construct

Met Ser Asp Lys Met Ser Ser Phe Leu His Ile Gly Asp Ile Cys Ser 10 Leu Tyr Ala Glu Gly Ser Thr Asn Gly Phe Ile Ser Thr Leu Gly Leu 25 Val Asp Asp Arg Cys Val Val Gln Pro Glu Ala Gly Asp Leu Asn Asn 40 Pro Pro Lys Lys Phe Arg Asp Cys Leu Phe Lys Leu Cys Pro Met Asn 55 Arg Tyr Ser Ala Gln Lys Gln Phe Trp Lys Ala Ala Lys Pro Gly Ala 70 Asn Ser Thr Thr Asp Ala Val Leu Leu Asn Lys Leu His His Ala Ala 90 Asp Leu Glu Lys Lys Gln Asn Glu Thr Glu Asn Arg Lys Leu Leu Gly 100 105 Thr Val Ile Gln Tyr Gly Asn Val Ile Gln Leu Leu His Leu Lys Ser 120 Asn Lys Tyr Leu Thr Val Asn Lys Arg Leu Pro Ala Leu Leu Glu Lys 135 140 Asn Ala Met Arg Val Thr Leu Asp Glu Ala Gly Asn Glu Gly Ser Trp 150 155 Phe Tyr Ile Gln Pro Phe Tyr Lys Leu Arg Ser Ile Gly Asp Ser Val 165 170 Val Ile Gly Asp Lys Val Val Leu Asn Pro Val Asn Ala Gly Gln Pro 180 185 Leu His Ala Ser Ser His Gln Leu Val Asp Asn Pro Gly Cys Asn Glu 200 Val Asn Ser Val Asn Cys Asn Thr Ser Trp Lys Ile Val Leu Phe Met 215 220 Lys Trp Ser Asp Asn Lys Asp Asp Ile Leu Lys Gly Gly Asp Val Val 230 235 Arg Leu Phe His Ala Glu Gln Glu Lys Phe Leu Thr Cys Asp Glu His 250 Arg Lys Lys Gln His Val Phe Leu Arg Thr Thr Gly Arg Gln Ser Ala 260 265 270 Thr Ser Ala Thr Ser Ser Lys Ala Leu Trp Glu Val Glu Val Val Gln

		275					280					285			
	290			-		295					300			Phe	
Phe 305	Lys	His	Leu	Ala	Thr 310	Gly	His	Tyr	Leu	Ala 315	Ala	Glu	Val	Asp	Pro 320
Asp	Phe	Glu	Glu	Glu 325	Cys	Leu	Glu	Phe	Gln 330	Pro	Ser	Val	Asp	Pro 335	Asp
Gln	Asp	Ala	Ser 340	Arg	Ser	Arg	Leu	Arg 345	Asn	Ala	Gln	Glu	Lys 350	Met	Val
Tyr	Ser	Leu 355	Val	Ser	Val	Pro	Glu 360	Gly	Asn	Asp	Ile	Ser 365	Ser	Ile	Phe
	370					375					380			Pro	
385					390					395				Val	400
				405		_	_		410		_			Met 415	
_			420					425					430	Ala	
		435					440	_				445		Asn	
	450	_			_	455					460			Gly	
465					470					475				Asp	480
				485					490					Leu 495	
			500	_	•			505					510	Arg	
		515					520					525		Phe	
	530					535					540			Asp	
545					550					555				Val	560
_				565					570					Ala 575	
			580			_		585					590	Ala	
_		595					600					605		Glu	
	610					615					620			Arg	
625	_			_	630		_	_		635	_		_		Ser 640
		_		645					650					Ala 655	
			660					665					670	Leu	Leu
	J	675				•	680			-		685			
	690		_			695		_			700			Ser	
705			_		710			_		715				Ala	720
			-	725	_		_		730					Tyr 735	
			740					745					750	Ala	
Asn	Glu	Ile 755	Ser	Gly	Gln	Leu	Asp 760	Val	Asp	Leu	Ile	Leu 765	Arg	Cys	Met

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Ser Asp Glu Asn Leu Pro Tyr Asp Leu Arg Ala Ser Phe Cys Arg Leu
                       775
Met Leu His Met His Val Asp Arg Asp Pro Gln Glu Gln Val Thr Pro
                                       795
                   790
Val Lys Tyr Ala Arg Leu Trp Ser Glu Ile Pro Ser Glu Ile Ala Ile
              805
                                  810
Asp Asp Tyr Asp Ser Ser Gly Ala Ser Lys Asp Glu Ile Lys Glu Arg
                              825
Phe Ala Gln Thr Met Glu Phe Val Glu Glu Tyr Leu Arg Asp Val Val
                           840
Cys Gln Arg Phe Pro Phe Ser Asp Lys Glu Lys Asn Lys Leu Thr Phe
                      855
                                          860
Glu Val Val Asn Leu Ala Arg Asn Leu Ile Tyr Phe Gly Phe Tyr Asn
                   870
                                       875
Phe Ser Asp Leu Leu Arg Leu Thr Lys Ile Leu Leu Ala Ile Leu Asp
               885
                                  890
Cys Val His Val Thr Thr Ile Phe Pro Ile Ser Lys Met Thr Lys Gly
                               905
           900
Glu Glu Asn Lys Gly Ser Asn Val Met Arg Ser Ile His Gly Val Gly
                          920
Glu Leu Met Thr Gln Val Val Leu Arg Gly Gly Phe Leu Pro Met
                       935
                                           940
Thr Pro Met Ala Ala Pro Glu Gly Asn Val Lys Gln Ala Glu Pro
                   950
                                      955
Glu Lys Glu Asp Ile Met Val Met Asp Thr Lys Leu Lys Ile Ile Glu
               965
                                   970
Ile Leu Gln Phe Ile Leu Asn Val Arg Leu Asp Tyr Arg Ile Ser Cys
           980
                              985
Leu Leu Cys Ile Phe Lys Arg Glu Phe Asp Glu Ser Asn Ser Gln Ser
       995
                          1000
                                              1005
Ser Glu Thr Ser Ser Gly Asn Ser Ser Gln Glu Gly Pro Ser Asn Val
                       1015
                                          1020
Pro Gly Ala Leu Asp Phe Glu His Ile Glu Glu Gln Ala Glu Gly Ile
                   1030
                                      1035
Phe Gly Gly Ser Glu Glu Asn Thr Pro Leu Asp Leu Asp Asp His Gly
               1045
                               1050
Gly Arg Thr Phe Leu Arg Val Leu Leu His Leu Thr Met His Asp Tyr
           1060
                    1065
                                                  1070
Pro Pro Leu Val Ser Gly Ala Leu Gln Leu Leu Phe Arg His Phe Ser
                          1080
                                            1085
Gln Arg Gln Glu Val Leu Gln Ala Phe Lys Gln Val Gln Leu Leu Val
                      1095
                                           1100
Thr Ser Gln Asp Val Asp Asn Tyr Lys Gln Ile Lys Gln Asp Leu Asp
                   1110
                                       1115
Gln Leu Arg Ser Ile Val Glu Lys Ser Glu Leu Trp Val Tyr Lys Gly
               1125
                                   1130
Gln Gly Pro Asp Glu Pro Met Asp Gly Ala Ser Gly Glu Asn Glu His
           1140
                              1145
Lys Lys Thr Glu Glu Gly Thr Ser Lys Pro Leu Lys His Glu Ser Thr
                           1160
Ser Ser Tyr Asn Tyr Arg Val Val Lys Glu Ile Leu Ile Arg Leu Ser
                       1175
Lys Leu Cys Val Gln Glu Ser Ala Ser Val Arg Lys Ser Arg Lys Gln
                  1190
                                      1195
Gln Gln Arg Leu Leu Arg Asn Met Gly Ala His Ala Val Val Leu Glu
               1205
                                  1210
Leu Leu Gln Ile Pro Tyr Glu Lys Ala Glu Asp Thr Lys Met Gln Glu
           1220
                              1225
                                                 1230
Ile Met Arg Leu Ala His Glu Phe Leu Gln Asn Phe Cys Ala Gly Asn
                          1240
                                               1245
Gln Gln Asn Gln Ala Leu Leu His Lys His Ile Asn Leu Phe Leu Asn
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1250	1255		1260	
Pro Gly Ile Leu 1265	Glu Ala Val 1270	Thr Met Gln	His Ile Ph	e Met Asn Asn 1280
Phe Gln Leu Cys		Asn Glu Arg 129		n His Phe Val 1295
His Cys Ile Glu 130	Thr His Gly			
Gln Thr Ile Val	Lys Ala Glu			
Met Val Met Ala		Asn Ser Gly	Glu Asp Va 1340	l Leu Val Phe
Tyr Asn Asp Arg				t Met Arg Ser 1360
Glu Arg Asp Arg		Asn Ser Pro		t Tyr His Ile 1375
His Leu Val Glu 138		Val Cys Thr 1385	Glu Gly Ly	s Asn Val Tyr 1390
Thr Glu Ile Lys 1395	Cys Asn Ser	Leu Leu Pro 1400		p Ile Val Arg 05
Val Val Thr His 1410	Glu Asp Cys 1415		Val Lys Il 1420	e Ala Tyr Ile
Asn Phe Leu Asn 1425	His Cys Tyr 1430	Val Asp Thr	Glu Val Gl 1435	u Met Lys Glu 1440
Ile Tyr Thr Ser		Trp Lys Leu 145	Phe Glu As	
Asp Ile Cys Arg	Ala Cys Asn			
Ser Val Leu Glu 1475				
Thr Phe Phe Ser	Ser Pro Phe	Ser Asp Gln		
Arg Gln Pro Val				e Arg Val Tyr 1520
His Cys Asn Trp		Ser Gln Lys	Ala Ser Va	l Glu Ser Cys 1535
Ile Arg Val Leu 154	Ser Asp Val			e Ala Ile Pro 1550
Val Asp Leu Asp 1555	Ser Gln Val	Asn Asn Leu 1560		rs Ser His Asn 665
Ile Val Gln Lys 1570	Thr Ala Met 1575		Leu Ser Al 1580	a Arg Asn Ala
Ala Arg Arg Asp 1585	Ser Val Leu 1590	Ala Ala Ser	Arg Asp Ty 1595	r Arg Asn Ile 1600
Ile Glu Arg Leu	Gln Asp Ile 1605	Val Ser Ala 161		p Arg Leu Arg 1615
Pro Leu Val Gln 162	Ala Glu Leu			
Pro Glu Leu Leu 1635			_	g Lys Cys Glu 345
Ser Gly Gly Phe 1650	Ile Cys Lys 1655	Leu Ile Lys	His Thr Ly 1660	rs Gln Leu Leu
Glu Glu Asn Glu 1665	Glu Lys Leu 1670	Cys Ile Lys	Val Leu Gl 1675	n Thr Leu Arg 1680
Glu Met Met Thr	Lys Asp Arg 1685	Gly Tyr Gly 169		y Glu Ala Leu. 1695
Arg Gln Ile Leu 170	Val Asn Arg			
Arg Arg Glu Ser 1715				
Gly Pro Ser Lys 1730	Pro Gly Gly 1735		Gly Pro Gl 1740	y Ser Gly Ser

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Thr Ser Arg Gly Glu Met Ser Leu Ala Glu Val Gln Cys His Leu Asp
                 1750
                                   1755
Lys Glu Gly Ala Ser Asn Leu Val Ile Asp Leu Ile Met Asn Ala Ser
              1765
                               1770
Ser Asp Arg Val Phe His Glu Ser Ile Leu Leu Ala Ile Ala Leu Leu
          1780
                            1785
Glu Gly Gly Asn Thr Thr Ile Gln His Ser Phe Phe Cys Arg Leu Thr
                        1800
      1795
                                          1805
Glu Asp Lys Lys Ser Glu Lys Phe Phe Lys Val Phe Tyr Asp Arg Met
                    1815
                                      1820
Lys Val Ala Gln Glu Ile Lys Ala Thr Val Thr Val Asn Thr Ser
                1830
                                  1835
Asp Leu Gly Asn Lys Lys Asp Asp Glu Val Asp Arg Asp Ala Pro
             1845 1850
Ser Arg Lys Lys Ala Lys Glu Pro Thr Thr Gln Ile Thr Glu Glu Val
         1860
                  1865
Arg Asp Gln Leu Leu Glu Ala Ser Ala Ala Thr Arg Lys Ala Phe Thr
                       1880 1885
Thr Phe Arg Arg Glu Ala Asp Pro Asp Asp His Tyr Gln Ser Gly Glu
           1895 1900
Gly Thr Gln Ala Thr Thr Asp Lys Ala Lys Asp Asp Leu Glu Met Ser
                1910
                                  1915
Ala Val Ile Thr Ile Met Gln Pro Ile Leu Arg Phe Leu Gln Leu Leu
                               1930
Cys Glu Asn His Asn Arg Asp Leu Gln Asn Phe Leu Arg Cys Gln Asn
                           1945
Asn Lys Thr Asn Tyr Asn Leu Val Cys Glu Thr Leu Gln Phe Leu Asp
                       1960
Cys Ile Cys Gly Ser Thr Thr Gly Gly Leu Gly Leu Gly Leu Tyr
                    1975
                                     1980
Ile Asn Glu Lys Asn Val Ala Leu Ile Asn Gln Thr Leu Glu Ser Leu
                1990
                                  1995
Thr Glu Tyr Cys Gln Gly Pro Cys His Glu Asn Gln Asn Cys Ile Ala
             2005
                              2010
Thr His Glu Ser Asn Gly Ile Asp Ile Ile Thr Ala Leu Ile Leu Asn
          2020
                           2025
Asp Ile Asn Pro Leu Gly Lys Lys Arg Met Asp Leu Val Leu Glu Leu
                       2040
                                         2045
Lys Asn Asn Ala Ser Lys Leu Leu Leu Ala Ile Met Glu Ser Arg His
                    2055
                                      2060
Asp Ser Glu Asn Ala Glu Arg Ile Leu Tyr Asn Met Arg Pro Lys Glu
                2070
                                  2075
Leu Val Glu Val Ile Lys Lys Ala Tyr Met Gln Gly Glu Val Glu Phe
             2085
                               2090
Glu Asp Gly Glu Asn Gly Glu Asp Gly Ala Ala Ser Pro Arg Asn Val
          2100
                           2105
                                             2110
Gly His Asn Ile Tyr Ile Leu Ala His Gln Leu Ala Arg His Asn Lys
      2115 2120
                                         2125
Glu Leu Gln Thr Met Leu Lys Pro Gly Gly Gln Val Asp Gly Asp Glu
                    2135
                                      2140
Ala Leu Glu Phe Tyr Ala Lys His Thr Ala Gln Ile Glu Ile Val Arg
                2150
                                2155
Leu Asp Arg Thr Met Glu Gln Ile Val Phe Pro Val Pro Ser Ile Cys
             2165
                               2170
Glu Phe Leu Thr Lys Glu Ser Lys Leu Arg Ile Tyr Tyr Thr Thr Glu
          2180
               2185
Arg Asp Glu Gln Gly Ser Lys Ile Asn Asp Phe Phe Leu Arg Ser Glu
                        2200
                                2205
Asp Leu Phe Asn Glu Met Asn Trp Gln Lys Lys Leu Arg Ala Gln Pro
   2210 2215 2220
Val Leu Tyr Trp Cys Ala Arg Asn Met Ser Phe Trp Ser Ser Ile Ser
```

2225	2230	2235 2240
Phe Asn Leu Ala Val 224		Val Ala Phe Phe Tyr Pro 0 2255
Phe Lys Gly Val Arg	Gly Gly Thr Leu Glu	Pro His Trp Ser Gly Leu
2260	2265	2270
Leu Trp Thr Ala Met	Leu Ile Ser Leu Ala	Ile Val Ile Ala Leu Pro
2275	2280	2285
Lys Pro His Gly Ile	Arg Ala Leu Ile Ala	Ser Thr Ile Leu Arg Leu
2290	2295	2300
Ile Phe Ser Val Gly 2305	Leu Gln Pro Thr Leu 2310	Phe Leu Leu Gly Ala Phe 2315 2320
Asn Val Cys Asn Lys 232		Ser Phe Val Gly Asn Cys 0 2335
Gly Thr Phe Thr Arg	Gly Tyr Arg Ala Met	Val Leu Asp Val Glu Phe
2340	2345	2350
Leu Tyr His Leu Leu	Tyr Leu Leu Ile Cys	Ala Met Gly Leu Phe Val
2355	2360	2365
His Glu Phe Phe Tyr	Ser Leu Leu Leu Phe	Asp Leu Val Tyr Arg Glu
2370	2375	2380
Glu Thr Leu Leu Asn 2385	Val Ile Lys Ser Val 2390	Thr Arg Asn Gly Arg Pro 2395 2400
Ile Ile Leu Thr Ala 240		Leu Val Tyr Leu Phe Ser 0 2415
Ile Val Gly Tyr Leu 2420	Phe Phe Lys Asp Asp 2425	Phe Ile Leu Glu Val Asp 2430
Arg Leu Pro Asn Glu	Thr Ala Gly Pro Glu	Thr Gly Glu Ser Leu Ala
2435	2440	2445
Asn Asp Phe Leu Tyr	Ser Asp Val Cys Arg	Val Glu Thr Gly Glu Asn
2450	2455	2460
Cys Thr Ser Pro Ala	Pro Lys Glu Glu Leu	Leu Pro Val Glu Glu Thr
2465	2470	2475 2480
Glu Gln Asp Lys Glu 248	_	Leu Leu Met Cys Ile Val 0 2495
Thr Val Leu Ser His	Gly Leu Arg Ser Gly	Gly Gly Val Gly Asp Val
2500	2505	2510
Leu Arg Lys Pro Ser	Lys Glu Glu Pro Leu	Phe Ala Ala Arg Val Ile
2515	2520	2525
Tyr Asp Leu Leu Phe	Phe Phe Met Val Ile	Ile Ile Val Leu Asn Leu
2530	2535	2540
2545	2550	Asp Leu Arg Ser Glu Lys 2555 2560
Gln Lys Lys Glu Glu 256		Cys Phe Ile Cys Gly Leu 0 2575
Glu Arg Asp Lys Phe	Asp Asn Lys Thr Val	Thr Phe Glu Glu His Ile
2580	2585	2590
Lys Glu Glu His Asn	Met Trp His Tyr Leu	Cys Phe Ile Val Leu Val
2595	2600	2605
Lys Val Lys Asp Ser	Thr Glu Tyr Thr Gly	Pro Glu Ser Tyr Val Ala
2610	2615	2620
Glu Met Ile Arg Glu 2625	Arg Asn Leu Asp Trp 2630	Phe Pro Arg Met Arg Ala 2635 2640
Met Ser Leu Val Ser 264		Glu Gln Asn Glu Leu Arg 0 2655
Asn Leu Gln Glu Lys	Leu Glu Ser Thr Met	Lys Leu Val Thr Asn Leu
2660	2665	2670
		Met Thr Glu Gln Arg Lys 2685
Gln Lys Gln Arg Ile 2690		Pro Pro His Met Asn Val 2700
Asn Pro Gln Gln Pro		

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<213> Artificial Sequence
<223> Description of Artificial Sequence:/note =
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Leu Tyr Ala Glu Gly Ser Thr Asn Gly Phe Ile Ser Thr Leu Gly Leu
                               25
Val Asp Asp Arg Cys Val Val Gln Pro Glu Ala Gly Asp Leu Asn Asn
                            40
Pro Pro Lys Lys Phe Arg Asp Cys Leu Phe Lys Leu Cys Pro Met Asn
Arg Tyr Ser Ala Gln Lys Gln Phe Trp Lys Ala Ala Lys Pro Gly Ala
Asn Ser Thr Thr Asp Ala Val Leu Leu Asn Lys Leu His His Ala Ala
                                    90
Asp Leu Glu Lys Lys Gln Asn Glu Thr Glu Asn Arg Lys Leu Leu Gly
                                105
Thr Val Ile Gln Tyr Gly Asn Val Ile Gln Leu Leu His Leu Lys Ser
                            120
                                                125
Asn Lys Tyr Leu Thr Val Asn Lys Arg Leu Pro Ala Leu Leu Glu Lys
                        135
Asn Ala Met Arg Val Thr Leu Asp Glu Ala Gly Asn Glu Gly Ser Trp
                                        155
                   150
Phe Tyr Ile Gln Pro Phe Tyr Lys Leu Arg Ser Ile Gly Asp Ser Val
                                    170
Val Ile Gly Asp Lys Val Val Leu Asn Pro Val Asn Ala Gly Gln Pro
                                185
Leu His Ala Ser Ser His Gln Leu Val Asp Asn Pro Gly Cys Asn Glu
                            200
Val Asn Ser Val Asn Cys Asn Thr Ser Trp Lys Ile Val Leu Phe Met
                       215
Lys Trp Ser Asp Asn Lys Asp Asp Ile Leu Lys Gly Gly Asp Val Val
                   230
                                        235
Arg Leu Phe His Ala Glu Glu Glu Lys Phe Leu Thr Cys Asp Glu His
                                    250
                245
Arg Lys Lys Gln His Val Phe Leu Arg Thr Thr Gly Arg Gln Ser Ala
                                265
            260
Thr Ser Ala Thr Ser Ser Lys Ala Leu Trp Glu Val Glu Val Val Gln
                            280
His Asp Pro Cys Arg Gly Gly Ala Gly Tyr Trp Asn Ser Leu Phe Arg
                        295
                                            300
Phe Lys His Leu Ala Thr Gly His Tyr Leu Ala Ala Glu Val Asp Pro
                   310
                                        315
Asp Phe Glu Glu Cys Leu Glu Phe Gln Pro Ser Val Asp Pro Asp
                                    330
                325
Gln Asp Ala Ser Arg Ser Arg Leu Arg Asn Ala Gln Glu Lys Met Val
            340
                                345
Tyr Ser Leu Val Ser Val Pro Glu Gly Asn Asp Ile Ser Ser Ile Phe
                           360
                                                365
Glu Leu Asp Pro Thr Thr Leu Arg Gly Gly Asp Ser Leu Val Pro Arg
                        375
                                            380
Asn Ser Tyr Val Arg Leu Arg His Leu Cys Thr Asn Thr Trp Val His
```

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385
                                       395
                                                           400
                   390
Ser Thr Asn Ile Pro Ile Asp Lys Glu Glu Glu Lys Pro Val Met Leu
               405
                                   410
Lys Ile Gly Thr Ser Pro Leu Lys Glu Asp Lys Glu Ala Phe Ala Ile
           420
                               425
Val Pro Val Ser Pro Ala Glu Val Arg Asp Leu Asp Phe Ala Asn Asp
                           440
Ala Ser Lys Val Leu Gly Ser Ile Ala Gly Lys Leu Glu Lys Gly Thr
                       455
Ile Thr Gln Asn Glu Arg Arg Ser Val Thr Lys Leu Leu Glu Asp Leu
                   470
                                       475
Val Tyr Phe Val Thr Gly Gly Thr Asn Ser Gly Gln Asp Val Leu Glu
                485
                                   490
Val Val Phe Ser Lys Pro Asn Arg Glu Arg Gln Lys Leu Met Arg Glu
                               505
           500
Gln Asn Ile Leu Lys Gln Ile Phe Lys Leu Cln Ala Pro Phe Thr
                           520
Asp Cys Gly Asp Gly Pro Met Leu Arg Leu Glu Glu Leu Gly Asp Gln
                       535
                                            540
Arg His Ala Pro Phe Arg His Ile Cys Arg Leu Cys Tyr Arg Val Leu
                   550
                                       555
Arg His Ser Gln Gln Asp Tyr Arg Lys Asn Gln Glu Tyr Ile Ala Lys
               565
                                   570
Gln Phe Gly Phe Met Gln Lys Gln Ile Gly Tyr Asp Val Leu Ala Glu
           580
                                585
Asp Thr Ile Thr Ala Leu Leu His Asn Asn Arg Lys Leu Leu Glu Lys
                           600
His Ile Thr Ala Ala Glu Ile Asp Thr Phe Val Ser Leu Val Arg Lys
                       615
                                            620
Asn Arg Glu Pro Arg Phe Leu Asp Tyr Leu Ser Asp Leu Cys Val Ser
                   630
                                        635
Met Asn Lys Ser Ile Pro Val Thr Gln Glu Leu Ile Cys Lys Ala Val
                                    650
Leu Asn Pro Thr Asn Ala Asp Ile Leu Ile Glu Thr Lys Leu Val Leu
                                665
Ser Arg Phe Glu Phe Glu Gly Val Ser Thr Gly Glu Asn Ala Leu Glu
                           680
Ala Gly Glu Asp Glu Glu Glu Val Trp Leu Phe Trp Arg Asp Ser Asn
                       695
                                            700
Lys Glu Ile Arg Ser Lys Ser Val Arg Glu Leu Ala Gln Asp Ala Lys
                    710
                                        715
Glu Gly Gln Lys Glu Asp Arg Asp Val Leu Ser Tyr Tyr Arg Tyr Gln
                725
                                    730
Leu Asn Leu Phe Ala Arg Met Cys Leu Asp Arg Gln Tyr Leu Ala Ile
                                745
Asn Glu Ile Ser Gly Gln Leu Asp Val Asp Leu Ile Leu Arg Cys Met
                            760
Ser Asp Glu Asn Leu Pro Tyr Asp Leu Arg Ala Ser Phe Cys Arg Leu
                        775
                                            780
Met Leu His Met His Val Asp Arg Asp Pro Gln Glu Gln Val Thr Pro
                   790
                                        795
Val Lys Tyr Ala Arg Leu Trp Ser Glu Ile Pro Ser Glu Ile Ala Ile
                805
                                    810
Asp Asp Tyr Asp Ser Ser Gly Ala Ser Lys Asp Glu Ile Lys Glu Arg
           820
                                825
Phe Ala Gln Thr Met Glu Phe Val Glu Glu Tyr Leu Arg Asp Val Val
                           840
                                                845
Cys Gln Arg Phe Pro Phe Ser Asp Lys Glu Lys Asn Lys Leu Thr Phe
                       855
                                           860
Glu Val Val Asn Leu Ala Arg Asn Leu Ile Tyr Phe Gly Phe Tyr Asn
                    870
                                        875
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Phe Ser Asp Leu Leu Arg Leu Thr Lys Ile Leu Leu Ala Ile Leu Asp
                              890
Cys Val His Val Thr Thr Ile Phe Pro Ile Ser Lys Met Thr Lys Gly
                          905
          900
Glu Glu Asn Lys Gly Ser Asn Val Met Arg Ser Ile His Gly Val Gly
                       920
                                        925
Glu Leu Met Thr Gln Val Val Leu Arg Gly Gly Phe Leu Pro Met
                   935
                                     940
Thr Pro Met Ala Ala Pro Glu Gly Asn Val Lys Gln Ala Glu Pro
                950
                                 955
Glu Lys Glu Asp Ile Met Val Met Asp Thr Lys Leu Lys Ile Ile Glu
                              970
Ile Leu Gln Phe Ile Leu Asn Val Arg Leu Asp Tyr Arg Ile Ser Cys
                          985
Leu Leu Cys Ile Phe Lys Arg Glu Phe Asp Glu Ser Asn Ser Gln Ser
                      1000
Ser Glu Thr Ser Ser Gly Asn Ser Ser Gln Glu Gly Pro Ser Asn Val
          1015
                                    1020
Pro Gly Ala Leu Asp Phe Glu His Ile Glu Glu Gln Ala Glu Gly Ile
                1030
                                1035
Phe Gly Gly Ser Glu Glu Asn Thr Pro Leu Asp Leu Asp Asp His Gly
                   1050
            1045
Gly Arg Thr Phe Leu Arg Val Leu Leu His Leu Thr Met His Asp Tyr
                                           1070
         1060 1065
Pro Pro Leu Val Ser Gly Ala Leu Gln Leu Leu Phe Arg His Phe Ser
                              1085
 1075 1080
Gln Arg Gln Glu Val Leu Gln Ala Phe Lys Gln Val Gln Leu Leu Val
         1095
                                    1100
Thr Ser Gln Asp Val Asp Asn Tyr Lys Gln Ile Lys Gln Asp Leu Asp
      1110 1115
Gln Leu Arg Ser Ile Val Glu Lys Ser Glu Leu Trp Val Tyr Lys Gly
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Gln Gly Pro Asp Glu Pro Met Asp Gly Ala Ser Gly Glu Asn Glu His
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                          1145
                                           1150
Lys Lys Thr Glu Glu Gly Thr Ser Lys Pro Leu Lys His Glu Ser Thr
             1160
                            1165
     1155
Ser Ser Tyr Asn Tyr Arg Val Val Lys Glu Ile Leu Ile Arg Leu Ser
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                                    1180
Lys Leu Cys Val Gln Glu Ser Ala Ser Val Arg Lys Ser Arg Lys Gln
                        1195
1185 1190
Gln Gln Arg Leu Leu Arg Asn Met Gly Ala His Ala Val Val Leu Glu
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                             1210
Leu Leu Gln Ile Pro Tyr Glu Lys Ala Glu Asp Thr Lys Met Gln Glu
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                         1225
                                  1230
Ile Met Arg Leu Ala His Glu Phe Leu Gln Asn Phe Cys Ala Gly Asn
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                                       1245
Gln Gln Asn Gln Ala Leu Leu His Lys His Ile Asn Leu Phe Leu Asn
   1250 1255
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Pro Gly Ile Leu Glu Ala Val Thr Met Gln His Ile Phe Met Asn Asn
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Phe Gln Leu Cys Ser Glu Ile Asn Glu Arq Val Val Gln His Phe Val
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             1285
His Cys Ile Glu Thr His Gly Arg Asn Val Gln Tyr Ile Lys Phe Leu
         1300
               1305
                                           1310
Gln Thr Ile Val Lys Ala Glu Gly Lys Phe Ile Lys Lys Cys Gln Asp
                      1320
                              1325
Met Val Met Ala Glu Leu Val Asn Ser Gly Glu Asp Val Leu Val Phe
   1330 1335
                                    1340
Tyr Asn Asp Arg Ala Ser Phe Gln Thr Leu Ile Gln Met Met Arg Ser
    1350 1355
Glu Arg Asp Arg Met Asp Glu Asn Ser Pro Leu Phe Met Tyr His Ile
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	1365		1370		1375
His Leu Val Glu 1380		Val Cys 1385		Gly Lys	Asn Val Tyr 1390
Thr Glu Ile Lys 1395	Cys Asn Ser	Leu Leu 1400	Pro Leu	Asp Asp	
Val Val Thr His 1410	Glu Asp Cys 1415		Glu Val	Lys Ile 1420	Ala Tyr Ile
Asn Phe Leu Asn 1425	His Cys Tyr 1430	Val Asp	Thr Glu 1439		Met Lys Glu 1440
Ile Tyr Thr Ser	Asn His Met 1445	Trp Lys	Leu Phe 1450	Glu Asn	Phe Leu Val 1455
Asp Ile Cys Arg 1460	,	1465	5		1470
Ser Val Leu Glu 1475	Lys Tyr Val	Thr Glu 1480	Ile Val	Met Ser 1489	
Thr Phe Phe Ser 1490	Ser Pro Phe	Ser Asp	Gln Ser		
Arg Gln Pro Val 1505	Phe Val Gln 1510	Leu Leu	Gln Gly 1519		Arg Val Tyr 1520
His Cys Asn Trp	1525		1530		1535
Ile Arg Val Leu 1540	)	1545	5		1550
Val Asp Leu Asp 1555		1560		1569	5
Ile Val Gln Lys 1570	1575	;		1580	
Ala Arg Arg Asp 1585	1590		1599	5	1600
Ile Glu Arg Leu	Gln Asp Ile 1605	Val Ser	Ala Leu 1610	Glu Asp	Arg Leu Arg 1615
Pro Leu Val Gln 1620	)	1625	5	_	1630
Pro Glu Leu Leu 1635		1640	_	1645	5
Ser Gly Gly Phe 1650	1655	;		1660	
Glu Glu Asn Glu 1665	1670	_	1675	5	1680
Glu Met Met Thr	1685		1690		1695
Asp Glu Leu Glu 1700	)	1705	5		1710
Ser Thr Glu Glu 1715	Leu Glu Pro	Ser Pro 1720	Pro Leu	Arg Gln 1725	
His Lys Arg Gly 1730	Glu Ala Leu 1735	_	Ile Leu	Val Asn 1740	Arg Tyr Tyr
Gly Asn Ile Arg 1745	1750		1759	5	1760
Asn Gly Pro Leu	1765		1770		1775
Gly Gly Pro Gly 1780		Thr Ser 1785		Glu Met	Ser Leu Ala 1790
Glu Val Gln Cys 1795	His Leu Asp	Lys Glu 1800	Gly Ala	Ser Asn 1805	
Asp Leu Ile Met 1810	Asn Ala Ser 1815	_	Arg Val	Phe His 1820	Glu Ser Ile
Leu Leu Ala Ile 1825	Ala Leu Leu 1830	Glu Gly	Gly Asn 1839		Ile Gln His 1840
Ser Phe Phe Cys	Arg Leu Thr 1845	Glu Asp	Lys Lys 1850	Ser Glu	Lys Phe Phe 1855

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Lys Val Phe Tyr Asp Arg Met Lys Val Ala Gln Glu Ile Lys Ala
           1860
                             1865
Thr Val Thr Val Asn Thr Ser Asp Leu Gly Asn Lys Lys Lys Asp Asp
       1875
                         1880
                                            1885
Glu Val Asp Arg Asp Ala Pro Ser Arg Lys Lys Ala Lys Glu Pro Thr
                      1895
                                        1900
Thr Gln Ile Thr Glu Glu Val Arg Asp Gln Leu Leu Glu Ala Ser Ala
                  1910
                                    1915
Ala Thr Arg Lys Ala Phe Thr Thr Phe Arg Arg Glu Ala Asp Pro Asp
              1925
                                 1930
Asp His Tyr Gln Ser Gly Glu Gly Thr Gln Ala Thr Thr Asp Lys Ala
           1940
                             1945
                                                1950
Lys Asp Asp Leu Glu Met Ser Ala Val Ile Thr Ile Met Gln Pro Ile
                         1960
       1955
                                            1965
Leu Arg Phe Leu Gln Leu Leu Cys Glu Asn His Asn Arg Asp Leu Gln
   1970
                     1975
                                        1980
Asn Phe Leu Arg Cys Gln Asn Asn Lys Thr Asn Tyr Asn Leu Val Cys
                                    1995
                  1990
Glu Thr Leu Gln Phe Leu Asp Cys Ile Cys Gly Ser Thr Thr Gly Gly
              2005
                                2010
Leu Gly Leu Leu Gly Leu Tyr Ile Asn Glu Lys Asn Val Ala Leu Ile
                            2025
          2020
                                               2030
Asn Gln Thr Leu Glu Ser Leu Thr Glu Tyr Cys Gln Gly Pro Cys His
                         2040
       2035
                                           2045
Glu Asn Gln Asn Cys Ile Ala Thr His Glu Ser Asn Gly Ile Asp Ile
                                        2060
                     2055
Ile Thr Ala Leu Ile Leu Asn Asp Ile Asn Pro Leu Gly Lys Lys Arg
                 2070
                                    2075
Met Asp Leu Val Leu Glu Leu Lys Asn Ala Ser Lys Leu Leu Leu
              2085
                                2090
Ala Ile Met Glu Ser Arg His Asp Ser Glu Asn Ala Glu Arg Ile Leu
          2100
                            2105
                                               2110
Tyr Asn Met Arg Pro Lys Glu Leu Val Glu Val Ile Lys Lys Ala Tyr
                         2120
                                           2125
Met Gln Gly Glu Val Glu Phe Glu Asp Gly Glu Asn Gly Glu Asp Gly
                     2135
                                        2140
Ala Ala Ser Pro Arg Asn Val Gly His Asn Ile Tyr Ile Leu Ala His
                 2150
                                    2155
Gln Leu Ala Arg His Asn Lys Glu Leu Gln Thr Met Leu Lys Pro Gly
             2165
                                2170
Gly Gln Val Asp Gly Asp Glu Ala Leu Glu Phe Tyr Ala Lys His Thr
          2180
                             2185
                                               2190
Ala Gln Ile Glu Ile Val Arg Leu Asp Arg Thr Met Glu Gln Ile Val
                         2200
                                           2205
Phe Pro Val Pro Ser Ile Cys Glu Phe Leu Thr Lys Glu Ser Lys Leu
                     2215
                                        2220
Arg Ile Tyr Tyr Thr Thr Glu Arg Asp Glu Gln Gly Ser Lys Ile Asn
                 2230
                                    2235
Asp Phe Phe Leu Arg Ser Glu Asp Leu Phe Asn Glu Met Asn Trp Gln
                                2250
Lys Lys Leu Arg Ala Gln Pro Val Leu Tyr Trp Cys Ala Arg Asn Met
                             2265
Ser Phe Trp Ser Ser Ile Ser Phe Asn Leu Ala Val Leu Met Asn Leu
                         2280
Leu Val Ala Phe Phe Tyr Pro Phe Lys Gly Val Arg Gly Gly Thr Leu
                     2295
                                        2300
Glu Pro His Trp Ser Gly Leu Leu Trp Thr Ala Met Leu Ile Ser Leu
                  2310
                                    2315
Ala Ile Val Ile Ala Leu Pro Lys Pro His Gly Ile Arg Ala Leu Ile
              2325
                                2330
Ala Ser Thr Ile Leu Arg Leu Ile Phe Ser Val Gly Leu Gln Pro Thr
```

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2340
                            2345
Leu Phe Leu Cly Ala Phe Asn Val Cys Asn Lys Ile Ile Phe Leu
              2360 2365
      2355
Met Ser Phe Val Gly Asn Cys Gly Thr Phe Thr Arg Gly Tyr Arg Ala
                    2375
                            2380
Met Val Leu Asp Val Glu Phe Leu Tyr His Leu Leu Tyr Leu Leu Ile
                 2390
                            2395 2400
Cys Ala Met Gly Leu Phe Val His Glu Phe Phe Tyr Ser Leu Leu Leu
              2405
                               2410
Phe Asp Leu Val Tyr Arg Glu Glu Thr Leu Leu Asn Val Ile Lys Ser
          2420
                            2425
Val Thr Arg Asn Gly Arg Pro Ile Ile Leu Thr Ala Ala Leu Ala Leu
                        2440
Ile Leu Val Tyr Leu Phe Ser Ile Val Gly Tyr Leu Phe Phe Lys Asp
                    2455
                                      2460
Asp Phe Ile Leu Glu Val Asp Arg Leu Pro Asn Glu Thr Ala Gly Pro
                 2470
                                   2475
Glu Thr Gly Glu Ser Leu Ala Asn Asp Phe Leu Tyr Ser Asp Val Cys
              2485
                               2490
Arg Val Glu Thr Gly Glu Asn Cys Thr Ser Pro Ala Pro Lys Glu Glu
          2500
                           2505
                                             2510
Leu Leu Pro Val Glu Glu Thr Glu Gln Asp Lys Glu His Thr Cys Glu
      2515
                        2520
                                          2525
Thr Leu Leu Met Cys Ile Val Thr Val Leu Ser His Gly Leu Arg Ser
                     2535
                                      2540
Gly Gly Val Gly Asp Val Leu Arg Lys Pro Ser Lys Glu Glu Pro
                 2550 2555
Leu Phe Ala Ala Arg Val Ile Tyr Asp Leu Leu Phe Phe Phe Met Val
                               2570
             2565
Ile Ile Ile Val Leu Asn Leu Ile Phe Gly Val Ile Ile Asp Thr Phe
          2580
                            2585
                                              2590
Ala Asp Leu Arg Ser Glu Lys Gln Lys Lys Glu Glu Ile Leu Lys Thr
      2595 2600
Thr Cys Phe Ile Cys Gly Leu Glu Arg Asp Lys Phe Asp Asn Lys Thr
                    2615 2620
Val Thr Phe Glu Glu His Ile Lys Glu Glu His Asn Met Trp His Tyr
                 2630
                                   2635
Leu Cys Phe Ile Val Leu Val Lys Val Lys Asp Ser Thr Glu Tyr Thr
             2645
                               2650
Gly Pro Glu Ser Tyr Val Ala Glu Met Ile Arg Glu Arg Asn Leu Asp
          2660
                            2665
Trp Phe Pro Arg Met Arg Ala Met Ser Leu Val Ser Ser Asp Ser Glu
              2680
Gly Glu Gln Asn Glu Leu Arg Asn Leu Gln Glu Lys Leu Glu Ser Thr
                    2695
                                      2700
Met Lys Leu Val Thr Asn Leu Ser Gly Gln Leu Ser Glu Leu Lys Asp
                 2710
                                   2715
Gln Met Thr Glu Gln Arg Lys Gln Lys Gln Arg Ile Gly Leu Leu Gly
              2725
                               2730
His Pro Pro His Met Asn Val Asn Pro Gln Gln Pro Ala
          2740
                            2745
```

```
<210> 19
```

<sup>&</sup>lt;211> 2701

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Artificial Sequence

<sup>&</sup>lt;220>

<sup>&</sup>lt;223> Description of Artificial Sequence:/note =
 synthetic construct

```
<400> 19
Met Ser Asp Lys Met Ser Ser Phe Leu Tyr Ile Gly Asp Ile Val Ser
                                    10
Leu Tyr Ala Glu Gly Ser Val Asn Gly Phe Ile Ser Thr Leu Gly Leu
                               25
Val Asp Asp Arg Cys Val Val His Pro Glu Ala Gly Asp Leu Thr Asn
Pro Pro Lys Lys Phe Arg Asp Cys Leu Phe Lys Val Cys Pro Met Asn
Arg Tyr Ser Ala Gln Lys Gln Tyr Trp Lys Ala Lys Gln Ala Lys Gln
Gly Asn His Thr Glu Ala Ala Leu Leu Lys Lys Leu Gln His Ala Ala
Glu Leu Glu Gln Lys Gln Asn Glu Ser Glu Asn Arg Lys Leu Leu Gly
                               105
Glu Ile Val Lys Tyr Ser Lys Val Ile Gln Leu Leu His Ile Lys Ser
                           120
Asn Lys Tyr Leu Thr Val Asn Lys Arg Leu Pro Ala Leu Leu Glu Lys
                       135
Asn Ala Met Arg Val Ser Leu Asp Ala Ala Gly Asn Glu Gly Ser Trp
                   150
                                       155
Phe Tyr Ile His Pro Phe Trp Lys Leu Arg Ser Glu Gly Asp Asn Ile
                                   170
Val Val Gly Asp Lys Val Val Leu Met Pro Val Asn Ala Gly Gln Pro
                               185
           180
Leu His Ala Ser Asn Val Glu Leu Leu Asp Asn Pro Gly Cys Lys Glu
                            200
Val Asn Ala Val Asn Cys Asn Thr Ser Trp Lys Ile Thr Leu Phe Met
                       215
                                            220
Lys Phe Ser Ser Tyr Arg Glu Asp Val Leu Lys Gly Gly Asp Val Val
                   230
                                       235
Arg Leu Phe His Ala Glu Glu Glu Lys Phe Leu Thr Cys Asp Asp Tyr
               245
                                    250
Glu Lys Lys Gln His Ile Phe Leu Arg Thr Thr Leu Arg Gln Ser Ala
           260
                                265
Thr Ser Ala Thr Ser Ser Lys Ala Leu Trp Glu Ile Glu Val Val His
                           280
                                                285
His Asp Pro Cys Arg Gly Gly Ala Gly Gln Trp Asn Ser Leu Phe Arg
                        295
                                            300
Phe Lys His Leu Ala Thr Gly Asn Tyr Leu Ala Ala Glu Leu Asn Pro
                    310
                                        315
Asp Tyr Arg Asp Ala Gln Asn Glu Gly Lys Thr Val Arg Asp Gly Glu
                325
                                    330
Leu Pro Thr Ser Lys Lys His Gln Ala Gly Glu Lys Ile Met Tyr
                                345
Thr Leu Val Ser Val Pro His Gly Asn Asp Ile Ala Ser Leu Phe Glu
                            360
Leu Asp Ala Thr Thr Leu Gln Arg Ala Asp Cys Leu Val Pro Arg Asn
Ser Tyr Val Arg Leu Arg His Leu Cys Thr Asn Thr Trp Val Thr Ser
                    390
                                        395
Thr Ser Ile Pro Ile Asp Thr Glu Glu Glu Arg Pro Val Met Leu Lys
                                    410
Ile Gly Thr Cys Gln Thr Lys Glu Asp Lys Glu Ala Phe Ala Ile Val
                               425
Cys Val Pro Leu Ser Glu Val Arg Asp Leu Asp Phe Ala Asn Asp Ala
                            440
Asn Lys Val Leu Ala Thr Thr Val Lys Lys Leu Glu Asn Gly Ser Ile
                       455
                                            460
Thr Gln Asn Glu Arg Arg Phe Val Thr Lys Leu Leu Glu Asp Leu Ile
```

```
475
465
                   470
Phe Phe Val Ala Asp Val Thr Asn Asn Gly Gln Asp Val Leu Asp Val
               485
                        490
Val Ile Thr Lys Pro Asn Arg Glu Arg Gln Lys Leu Met Arg Glu Gln
                               505
Asn Ile Leu Ala Gln Val Phe Gly Ile Leu Lys Ala Pro Phe Lys Glu
                           520
Lys Ala Gly Glu Gly Ser Met Leu Arg Leu Glu Asp Leu Gly Asp Gln
                       535
Arg Tyr Ala Pro Tyr Lys Tyr Val Leu Arg Leu Cys Tyr Arg Val Leu
                                      555
                   550
Arg His Ser Gln Gln Asp Tyr Arg Lys Asn Gln Glu Tyr Ile Ala Lys
                                  570
               565
Asn Phe Cys Val Met Gln Ser Gln Ile Gly Tyr Asp Ile Leu Ala Glu
        580
                               585
Asp Thr Ile Thr Ala Leu Leu His Asn Asn Arg Lys Leu Leu Glu Lys
             600
His Ile Thr Ala Lys Glu Ile Glu Thr Phe Val Ser Leu Leu Arg Arg
                       615
                                          620
Asn Arg Glu Pro Arg Phe Leu Asp Tyr Leu Ser Asp Leu Cys Val Ser
                   630
                                      635
Asn Ser Thr Ala Ile Pro Val Thr Gln Glu Leu Ile Cys Lys Phe Met
               645
                                  650
Leu Ser Pro Gly Asn Ala Asp Ile Leu Ile Gln Thr Lys Leu Val Ser
                               665
Met Gln Val Glu Asn Pro Met Glu Ser Ser Ile Leu Pro Asp Asp Ile
                           680
Asp Asp Glu Glu Val Trp Leu Tyr Trp Ile Asp Ser Asn Lys Glu Pro
                       695
                                           700
His Gly Lys Ala Ile Arg His Leu Ala Gln Glu Ala Arg Glu Gly Thr
                   710
                                       715
Lys Ala Asp Leu Glu Val Leu Thr Tyr Tyr Arg Tyr Gln Leu Asn Leu
               725
                                   730
Phe Ala Arg Met Cys Leu Asp Arg Gln Tyr Leu Ala Ile Asn Gln Ile
                               745
Ser Thr Gln Leu Ser Val Asp Leu Ile Leu Arg Cys Val Ser Asp Glu
                           760
Ser Leu Pro Phe Asp Leu Arg Ala Ser Phe Cys Arg Leu Met Leu His
                       775
Met His Val Asp Arg Asp Pro Gln Glu Ser Val Val Pro Val Arg Tyr
                   790
                                       795
Ala Arg Leu Trp Thr Glu Ile Pro Thr Lys Ile Thr Ile His Glu Tyr
               805
                                   810
Asp Ser Ile Thr Asp Ser Ser Arg Asn Asp Met Lys Arg Lys Phe Ala
           820
                               825
Leu Thr Met Glu Phe Val Glu Glu Tyr Leu Lys Glu Val Val Asn Gln
                           840
Pro Phe Pro Phe Gly Asp Lys Glu Lys Asn Lys Leu Thr Phe Glu Val
                       855
                                           860
Val His Leu Ala Arg Asn Leu Ile Tyr Phe Gly Phe Tyr Ser Phe Ser
                   870
                                       875
Glu Leu Leu Arg Leu Thr Arg Thr Leu Leu Ala Ile Leu Asp Ile Val
                                   890
               885
Gln Ala Pro Met Ser Ser Tyr Phe Glu Arg Leu Ser Lys Phe Gln Asp
                               905
Gly Ser Asn Asn Val Met Arg Thr Ile His Gly Val Gly Glu Met Met
                           920
                                               925
Thr Gln Met Val Leu Ser Arg Gly Ser Ile Phe Pro Val Ser Trp Pro
                                           940
                       935
Asp Ala Gln Pro Ser Val His Pro Ser Lys Gln Ala Ser Pro Gly Glu
                                       955
                   950
```

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Glin Glu Asp Val Thr Val Met Asp Thr Lys Leu Lys Val Ile Glu Ile
                               970
             965
Leu Gln Phe Ile Leu Ser Val Arg Leu Asp Tyr Arg Ile Ser Tyr Met
                          985
Leu Ser Ile Tyr Lys Lys Glu Phe Gly Glu Asn Asp Gly Asn Gly Asp
                       1000
                                1005
Pro Ser Ala Ser Gly Thr Pro Glu Thr Leu Leu Pro Ser Ala Leu Val
                    1015
                                     1020
Pro Asp Ile Asp Glu Ile Ala Ala Gln Ala Glu Thr Met Phe Ala Gly
                                 1035
       1030
Arg Lys Glu Lys Thr Pro Val Gln Leu Asp Asp Glu Gly Gly Arg Thr
            1045
                              1050
Phe Leu Arg Val Leu Ile His Leu Ile Met His Asp Tyr Ala Pro Leu
                  1065
          1060
Leu Ser Gly Ala Leu Gln Leu Leu Phe Lys His Phe Ser Gln Arg Ala
                                        1085
      1075
              1080
Glu Val Leu Gln Ala Phe Lys Gln Val Gln Leu Leu Val Ser Asn Gln
          1095
                                     1100
Asp Val Asp Asn Tyr Lys Gln Ile Lys Ala Asp Leu Asp Gln Leu Arg
                         1115
         1110
Leu Thr Val Glu Lys Ser Glu Leu Trp Val Glu Lys Ser Gly Ser Tyr
             1125
                              1130
Glu Asn Gly Asp Met Gly Glu Gly Gln Ala Lys Gly Gly Glu Glu Ala
                                             1150
          1140
                           1145
Asn Glu Glu Ser Asn Leu Leu Ser Pro Val Gln Asp Gly Ala Lys Thr
              1160
                                         1165
      1155
Pro Gln Ile Asp Ser Asn Lys Gly Asn Asn Tyr Arg Ile Val Lys Glu
          1175
                                     1180
Ile Leu Ile Arg Leu Ser Lys Leu Cys Val Gln Asn Lys Lys Cys Arg
                      1195
        1190
Asn Gln His Gln Arg Leu Leu Lys Asn Met Gly Ala His Ser Val Val
             1205
                              1210
Leu Asp Leu Leu Gln Ile Pro Tyr Glu Lys Thr Asp Glu Lys Met Asn
               1225
                                             1230
          1220
Glu Val Met Asp Leu Ala His Thr Phe Leu Gln Asn Phe Cys Arg Gly
      1235 1240
                                      1245
Asn Pro Gln Asn Gln Val Leu Leu His Lys His Leu Asn Leu Phe Leu
                    1255
                                     1260
Thr Pro Gly Leu Leu Glu Ala Glu Thr Met Arg His Ile Phe Met Asn
1265 . 1270
                                  1275
Asn Tyr His Leu Cys Asn Glu Ile Ser Glu Arg Val Val Gln His Phe
                               1290
             1285
Val His Cys Ile Glu Thr His Gly Arg His Val Glu Tyr Leu Arg Phe
          1300
                           1305
Leu Gln Thr Ile Val Lys Ala Asp Gly Lys Tyr Val Lys Lys Cys Gln
                        1320
                                         1325
      1315
Asp Met Val Met Thr Glu Leu Ile Asn Gly Gly Glu Asp Val Leu Ile
                    1335
                                      1340
Phe Tyr Asn Asp Arg Ala Ser Phe Pro Ile Leu Leu Asn Met Met Cys
     1350
                                  1355
Ser Glu Arg Ala Arg Gly Asp Glu Ser Gly Pro Leu Ala Tyr His Ile
             1365
                               1370
Thr Leu Val Glu Leu Leu Ala Ala Cys Thr Glu Gly Lys Asn Val Tyr
          1380
                           1385
Thr Glu Ile Lys Cys Asn Ser Leu Leu Pro Leu Asp Asp Ile Val Arg
            1400
                                         1405
Val Val Thr His Asp Asp Cys Ile Pro Glu Val Lys Ile Ala Tyr Val
                    1415
                                      1420
Asn Phe Val Asn His Cys Tyr Val Asp Thr Glu Val Glu Met Lys Glu
1425 1430 1435
Ile Tyr Thr Ser Asn His Ile Trp Lys Leu Phe Glu Asn Phe Leu Val
```

	1445	145	50	1455
Asp Met Ala Arg	Val Cys Asn			
Thr Phe Leu Glu 1475	Arg Cys Val	Thr Glu Ser	Val Met Asn 1485	
Gly Phe Phe Asn 1490	Ser Pro Phe	_	Ser Thr Ser 1500	Leu Gln Thr
His Gln Pro Val	Phe Ile Gln 1510	Leu Leu Gli	n Ser Ala Phe 1515	Arg Ile Tyr 1520
Asn Cys Thr Trp	Pro Asn Pro 1525	Ala Gln Lys		Glu Ser Cys 1535
Ile Arg Ala Leu . 1540		Ala Lys Ası 1545	n Arg Gly Ile	Ala Ile Pro 1550
Val Asp Leu Asp 1555	Ser Gln Val	Asn Thr Let	ı Phe Met Lys 1569	
Ser Thr Val Gln 1570	Arg Ala Ala 157		Arg Leu Ser 1580	Ala Arg Ser
Gly Pro Arg Phe 1585	Lys Glu Ala 1590	Leu Gly Gly	y Pro Ala Trp 1595	Asp Tyr Arg 1600
Asn Ile Ile Glu	Lys Leu Gln 1605	Asp Val Val 16:		Glu Gln Gln 1615
Phe Ser Pro Met		Glu Phe Ser 1625	r Val Leu Val	Asp Val Leu 1630
Tyr Ser Pro Glu 1635	Leu Leu Phe	Pro Glu Gly 1640		
Cys Gly Ala Phe 1650	Met Ser Lys 165		n His Thr Lys 1660	Lys Leu Met
Glu Lys Glu Glu 1665	1670		1675	1680
Met Leu Glu Lys	1685	16:	90	1695
Lys Ile Leu Leu 170	0	1705		1710
Asn Gly Pro Leu 1715		1720	172	5
Gly Phe Thr Gly 1730	173	35	1740	
Ile Gln Cys Leu 1745	1750		1755	1760
Val Ile Val Asn	1765	17	70	1775
Leu Gly Ile Ala 178	0	1785		1790
Phe Tyr Gln Gln 1795		1800	180	5
Val Leu Tyr Asp 1810	181	1.5	1820	
Val Thr Val Asn 1825	1830		1835	1840
Ser Asp Leu Met	1845	18	50	1855
Leu His Leu Lys 186	0	1865		1870
Ala Thr Ser Lys 1875		1880	188	5
Ile Asp Thr Met 1890	189	95	1900	
Ser Ala Glu Glu 1905	1910		1915	1920
Ile Leu Arg Phe	Leu Gln Leu	ı Leu Cys Gl	u Asn His Asn	Arg Glu Leu

	1925	-	1930		1935
Gln Asn Phe Leu 1940	Arg Asn Gln			Tyr Asn 1950	
Cys Glu Thr Leu 1955		Asp Cys 1 1960		Ser Thr 1965	Thr Gly
Gly Leu Gly Leu 1970	Leu Gly Leu 1975		Asn Glu Lys 1980		Ala Leu
Val Asn Gln Thr 1985	Leu Glu Ser 1990	Leu Thr (	Glu Tyr Cys 1995	Gln Gly	Pro Cys 2000
His Glu Asn Gln	Thr Cys Ile		His Glu Ser 2010	Asn Gly	Ile Asp 2015
Ile Ile Ile Ala 2020	Leu Ile Leu		Ile Asn Pro	Leu Gly 2030	
Arg Met Asp Leu 2035		Leu Lys 2		Ser Lys 2045	Leu Leu
Leu Ala Ile Met 2050	Glu Ser Arg 2055		Ser Glu Asn 2060		Arg Ile
Leu Phe Asn Met	Arg Pro Lys 2070	Glu Leu '	Val Asp Val 2075	Met Lys	Asn Ala 2080
Tyr Asn Gln Gly			Gly Asp Glu 2090	Glu Gly	Gly Asp 2095
Asp Gly Val Ser	Pro Lys Asp	Val Gly 1 2105		Tyr Ile 2110	
His Gln Leu Ala 2115	Arg His Asn			Met Leu 2125	Lys Pro
Gly Ser Asp Pro 2130	Glu Glu Gly 2135		Ala Leu Lys 2140		Ala Asn
His Thr Ala Gln 2145				Thr Met	Glu Gln 2160
Ile Val Phe Pro				Thr Arg	
Lys Tyr Arg Val	Phe Asn Thr	Thr Glu 2		Gln Gly 2190	
Val Asn Asp Phe 2195		Thr Glu . 2200	Asp Leu Tyr	Asn Glu 2205	Met Lys
Trp Gln Lys Lys 2210	Ile Arg Asn 2215				Ser Arg
His Ile Ser Leu 2225	Trp Gly Ser 2230	Ile Ser	Phe Asn Leu 2235	Ala Val	Phe Ile 2240
Asn Leu Ala Val	Ala Leu Phe 2245		Phe Gly Asp 2250	Asp Gly	Asp Glu 2255
Gly Thr Leu Ser 226		Ser Ala 2265		Val Ala 2270	
Ile Cys Thr Ser 2275	Met Leu Phe	Phe Phe 2280	Ser Lys Pro	Val Gly 2285	Ile Arg
Pro Phe Leu Val 2290	Ser Ile Met 2295		Ser Ile Tyr 2300		Gly Leu
Gly Pro Thr Leu 2305	Ile Leu Leu 2310	Gly Ala	Ala Asn Leu 2315	Cys Asn	Lys Ile 2320
Val Phe Leu Val	Ser Phe Val 2325		Arg Gly Thr 2330	Phe Thr	Arg Gly 2335
Tyr Arg Ala Val 234		Met Ala 2345		His Val	
Val Leu Val Cys 2355				Phe Phe 2365	Tyr Ser
Phe Leu Leu Phe 2370	Asp Leu Val	Tyr Arg	Glu Glu Thr 2380	Leu Leu	Asn Val
Ile Lys Ser Val					Ala Val 2400
Leu Ala Leu Ile				Gly Phe	

```
Leu Lys Asp Asp Phe Thr Met Glu Val Asp Arg Leu Lys Asn Arg Thr
           2420
                               2425
Pro Val Thr Gly Asn Asp Gly Val Pro Thr Met Thr Leu Thr Ser Met
        2435
                           2440
Leu Gly Thr Cys Pro Lys Glu Asn Cys Ser Pro Thr Ile Pro Ser Ser
                       2455
                                           2460
Asn Ala Ala Gly Glu Gly Glu Asp Gly Ile Glu Arg Thr Cys Asp
                   2470
                                       2475
Thr Leu Leu Met Cys Ile Val Thr Val Leu Asn Gln Gly Leu Arg Asn
               2485
                                   2490
                                                       2495
Gly Gly Val Gly Asp Val Leu Arg Arg Pro Ser Lys Asp Glu Pro
                               2505
                                                   2510
Leu Phe Ala Ala Arg Val Val Tyr Asp Leu Leu Phe Phe Phe Ile Val
                           2520
                                               2525
Ile Ile Ile Val Leu Asn Leu Ile Phe Gly Val Ile Ile Asp Thr Phe
                       2535
                                           2540
Ala Asp Leu Arg Ser Glu Lys Gln Lys Lys Glu Lys Ile Leu Lys Thr
                   2550
                                       2555
Thr Cys Phe Ile Cys Gly Leu Glu Arg Asp Lys Phe Asp Asn Lys Thr
               2565
                                   2570
                                                      2575
Val Ser Phe Glu Glu His Ile Lys Ser Glu His Asn Met Trp His Tyr
           2580
                               2585
                                                   2590
Leu Tyr Phe Ile Val Leu Val Lys Val Lys Asp Pro Thr Glu Tyr Thr
                           2600
                                               2605
Gly Pro Glu Ser Tyr Val Ala Gln Met Ile Thr Glu Lys Asn Leu Asp
                       2615
                                           2620
Trp Phe Pro Arg Met Arg Ala Met Ser Leu Val Ser Asn Glu Gly Asp
                   2630
                                       2635
Ser Glu Gln Asn Glu Ile Arg Asn Leu Gln Glu Lys Leu Glu Ser Thr
               2645
                                   2650
Met Ser Leu Val Lys Gln Leu Ser Gly Gln Leu Ala Glu Leu Lys Glu
           2660
                               2665
Gln Met Thr Glu Gln Arg Lys Asn Lys Gln Arg Leu Gly Phe Leu Gly
                           2680
Ser Asn Thr Pro His Glu Asn His His Met Pro Pro His
                       2695
```

```
<210> 20
<211> 2670
<212> PRT
<213> Artificial Sequence
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```
100
                               105
Gly Asp Val Val Lys Tyr Gly Ser Val Ile Gln Leu Leu His Met Lys
                           120
                                               125
Ser Asn Lys Tyr Leu Thr Val Asn Lys Arg Leu Pro Ala Leu Leu Glu
                                           140
                       135
Lys Asn Ala Met Arg Val Thr Leu Asp Ala Thr Gly Asn Glu Gly Ser
                   150
                                       155
Trp Leu Phe Ile Gln Pro Phe Trp Lys Leu Arg Ser Asn Gly Asp Asn
                                   170
Val Val Val Gly Asp Lys Val Ile Leu Asn Pro Val Asn Ala Gly Gln
           180
                                185
Pro Leu His Ala Ser Asn Tyr Glu Leu Ser Asp Asn Val Gly Cys Lys
                            200
Glu Val Asn Ser Val Asn Cys Asn Thr Ser Trp Lys Ile Asn Leu Phe
                                           220
                       215
Met Gln Phe Arg Asp His Leu Glu Glu Val Leu Lys Gly Gly Asp Val
                   230
                                        235
Val Arg Leu Phe His Ala Glu Glu Glu Lys Phe Leu Thr Cys Asp Glu
                                   250
               245
Tyr Arg Gly Lys Leu Gln Val Phe Leu Arg Thr Thr Leu Arg Gln Ser
           260
                                265
Ala Thr Ser Ala Thr Ser Ser Asn Ala Leu Trp Glu Val Glu Val Val
       275
                            280
His His Asp Pro Cys Arg Gly Gly Ala Gly His Trp Asn Gly Leu Tyr
                                            300
                        295
Arg Phe Lys His Leu Ala Thr Gly Asn Tyr Leu Ala Ala Glu Glu Asn
                   310
                                       315
Pro Ser Tyr Lys Gly Asp Val Ser Asp Pro Lys Ala Ala Gly Pro Gly
                325
                                    330
Ala Gln Ser Arg Thr Gly Arg Arg Asn Ala Gly Glu Lys Ile Lys Tyr
            340
                                345
Arg Leu Val Ala Val Pro His Gly Asn Asp Ile Ala Ser Leu Phe Glu
                            360
                                                365
Leu Asp Pro Thr Thr Leu Gln Lys Thr Asp Ser Phe Val Pro Arg Asn
                                            380
                        375
Ser Tyr Val Arg Leu Arg His Leu Cys Thr Asn Thr Trp Ile Gln Ser
                    390
                                        395
Thr Asn Ala Pro Ile Asp Val Glu Glu Glu Arg Pro Ile Arg Leu Met
               405
                                    410
Leu Gly Thr Cys Pro Thr Lys Glu Asp Lys Glu Ala Phe Ala Ile Val
            420
                                425
                                                    430
Ser Val Pro Val Ser Glu Ile Arg Asp Leu Asp Phe Ala Asn Asp Ala
                            440
                                                445
Ser Ser Met Leu Ala Ser Ala Val Glu Lys Leu Asn Glu Gly Phe Ile
                        455
                                            460
Ser Gln Asn Asp Arg Arg Phe Val Ile Gln Leu Leu Glu Asp Leu Val
                    470
                                        475
Phe Phe Val Ser Asp Val Pro Asn Asn Gly Gln Asn Val Leu Asp Ile
                485
                                    490
Met Val Thr Lys Pro Asn Arg Glu Arg Gln Lys Leu Met Arg Asp Glu
                               505
Asn Ile Leu Lys Gln Ile Phe Gly Ile Leu Lys Ala Pro Phe Arg Asp
                            520
                                                525
Lys Gly Glu Glu Pro Leu Val Arg Leu Glu Leu Ser Asp Gln
                        535
Lys Asn Ala Pro Tyr Gln Tyr Met Phe Arg Leu Cys Tyr Arg Val Leu
                                        555
                    550
Arg His Ser Gln Glu Asp Tyr Arg Lys Asn Gln Glu His Ile Ala Lys
                565
                                    570
Gln Phe Gly Met Met Gln Ser Gln Ile Gly Tyr Asp Ile Leu Ala Glu
                                585
```

```
Asp Thr Ile Thr Ala Leu Leu His Asn Asn Arg Lys Leu Leu Glu Lys
                            600
His Ile Thr Lys Thr Glu Val Glu Thr Phe Val Ser Leu Val Arg Lys
                        615
Asn Arg Glu Pro Arg Phe Leu Asp Tyr Leu Ser Asp Leu Cys Val Ser
                    630
                                        635
Asn Arg Ile Ala Ile Pro Val Thr Gln Glu Leu Ile Cys Lys Cys Val
                                    650
Leu Asp Pro Lys Asn Ser Asp Ile Leu Ile Gln Thr Glu Leu Arg Pro
                                665
Val Lys Glu Met Ala Gln Ser His Glu Tyr Leu Ser Ile Glu Tyr Ser
                            680
Glu Glu Glu Val Trp Leu Thr Trp Thr Asp Arg Asn Asn Glu His His
                                            700
                        695
Glu Lys Ser Val Arg Gln Leu Ala Gln Glu Ala Arg Ala Gly Asn Ala
                    710
                                        715
His Asp Glu Asn Val Leu Ser Tyr Tyr Arg Tyr Gln Leu Lys Leu Phe
                                    730
                725
Ala Arg Met Cys Leu Asp Arg Gln Tyr Leu Ala Ile Asp Glu Ile Ser
                               745
            740
Lys Gln Leu Gly Val Glu Leu Leu Phe Leu Cys Met Ala Asp Glu Met
                           760
Leu Pro Phe Asp Leu Arg Ala Ser Phe Cys His Leu Met Leu His Val
                       775
                                            780
His Val Asp Arg Asp Pro Gln Glu Leu Val Thr Pro Val Lys Phe Ala
                   790
                                        795
Arg Leu Trp Thr Glu Ile Pro Thr Ala Ile Thr Ile Lys Asp Tyr Asp
               805
                                   810
Ser Asn Leu Asn Ala Ser Arg Asp Asp Lys Lys Asn Lys Phe Ala Ser
                               825
Thr Met Glu Phe Val Glu Asp Tyr Leu Asn Asn Val Val Gly Glu Ala
                           840
Val Pro Phe Ala Asn Asp Glu Lys Asn Ile Leu Thr Phe Glu Val Val
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Asp Ala His Lys	1205	12	210	_	1215
Asn Asp Asn Lys 1220	)	1225	•	1230	)
Gln Lys Phe Cys 1235	-	1240		1245	_
His Leu Gln Leu 1250	1259	5	1260	)	
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Pro Val Leu Gln	1285	12	290		1295
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Pro Leu Met Tyr	1365	13	370		1375
Glu Gly Lys Asn 1380	)	1385		1390	)
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Val Ile Gly Asp Lys Val Val Leu Asn Pro Val Asn Ala Gly Gln Pro
Leu His Ala Ser Ser His Gln Leu Val Asp Asn Pro Gly Cys Asn Glu
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Val Asn Ser Val Asn Cys Asn Thr Ser Trp Lys Ile Val Leu Phe Met
                       215
                                            220
Lys Trp Ser Asp Asn Lys Asp Asp Ile Leu Lys Gly Gly Asp Val Val
                                        235
                   230
Arg Leu Phe His Ala Glu Glu Glu Lys Phe Leu Thr Cys Asp Glu His
               245
                                   250
Arg Lys Lys Gln His Val Phe Leu Arg Thr Thr Gly Arg Gln Ser Ala
                               265
Thr Ser Ala Thr Ser Ser Lys Ala Leu Trp Glu Val Glu Val Val Gln
                            280
His Asp Pro Cys Arg Gly Gly Ala Gly Tyr Trp Asn Ser Leu Phe Arg
                       295
Phe Lys His Leu Ala Thr Gly His Tyr Leu Ala Ala Glu Val Asp Pro
                   310
                                       315
Asp Phe Glu Glu Cys Leu Glu Phe Gln Pro Ser Val Asp Pro Asp
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                                    330
Gln Asp Ala Ser Arg Ser Arg Leu Arg Asn Ala Gln Glu Lys Met Val
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                               345
Tyr Ser Leu Val Ser Val Pro Glu Gly Asn Asp Ile Ser Ser Ile Phe
                           360
Glu Leu Asp Pro Thr Thr Leu Arg Gly Gly Asp Ser Leu Val Pro Arg
                       375
                                            380
Asn Ser Tyr Val Arg Leu Arg His Leu Cys Thr Asn Thr Trp Val His
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                                        395
Ser Thr Asn Ile Pro Ile Asp Lys Glu Glu Lys Pro Val Met Leu
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                                    410
Lys Ile Gly Thr Ser Pro Leu Lys Glu Asp Lys Glu Ala Phe Ala Ile
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Val Pro Val Ser Pro Ala Glu Val Arg Asp Leu Asp Phe Ala Asn Asp
                            440
                                                445
Ala Ser Lys Val Leu Gly Ser Ile Ala Gly Lys Leu Glu Lys Gly Thr
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                                            460
Ile Thr Gln Asn Glu Arg Arg Ser Val Thr Lys Leu Leu Glu Asp Leu
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Val Tyr Phe Val Thr Gly Gly Thr Asn Ser Gly Gln Asp Val Leu Glu
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                                    490
Val Val Phe Ser Lys Pro Asn Arg Glu Arg Gln Lys Leu Met Arg Glu
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Gln Asn Ile Leu Lys Gln Ile Phe Lys Leu Leu Gln Ala Pro Phe Thr
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Asp Cys Gly Asp Gly Pro Met Leu Arg Leu Glu Glu Leu Gly Asp Gln
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Arg His Ala Pro Phe Arg His Ile Cys Arg Leu Cys Tyr Arg Val Leu
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                                        555
Arg His Ser Gln Gln Asp Tyr Arg Lys Asn Gln Glu Tyr Ile Ala Lys
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Gln Phe Gly Phe Met Gln Lys Gln Ile Gly Tyr Asp Val Leu Ala Glu
                                585
Asp Thr Ile Thr Ala Leu Leu His Asn Asn Arg Lys Leu Leu Glu Lys
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His Ile Thr Ala Ala Glu Ile Asp Thr Phe Val Ser Leu Val Arg Lys
                        615
                                            620
Asn Arg Glu Pro Arg Phe Leu Asp Tyr Leu Ser Asp Leu Cys Val Ser
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                    630
Met Asn Lys Ser Ile Pro Val Thr Gln Glu Leu Ile Cys Lys Ala Val
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                                    650
Leu Asn Pro Thr Asn Ala Asp Ile Leu Ile Glu Thr Lys Leu Val Leu
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Ser Arg Phe Glu Phe Glu Gly Val Ser Thr Gly Glu Asn Ala Leu Glu
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Ala Gly Glu Asp Glu Glu Glu Val Trp Leu Phe Trp Arg Asp Ser Asn
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Lys Glu Ile Arg Ser Lys Ser Val Arg Glu Leu Ala Gln Asp Ala Lys
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Glu Gly Gln Lys Glu Asp Arg Asp Val Leu Ser Tyr Tyr Arg Tyr Gln
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Leu Asn Leu Phe Ala Arg Met Cys Leu Asp Arg Gln Tyr Leu Ala Ile
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Asn Glu Ile Ser Gly Gln Leu Asp Val Asp Leu Ile Leu Arg Cys Met
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Ser Asp Glu Asn Leu Pro Tyr Asp Leu Arg Ala Ser Phe Cys Arg Leu
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Met Leu His Met His Val Asp Arg Asp Pro Gln Glu Gln Val Thr Pro
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Val Lys Tyr Ala Arg Leu Trp Ser Glu Ile Pro Ser Glu Ile Ala Ile
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Asp Asp Tyr Asp Ser Ser Gly Ala Ser Lys Asp Glu Ile Lys Glu Arg
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Phe Ala Gln Thr Met Glu Phe Val Glu Glu Tyr Leu Arg Asp Val Val
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       835
Cys Gln Arg Phe Pro Phe Ser Asp Lys Glu Lys Asn Lys Leu Thr Phe
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                                           860
Glu Val Val Asn Leu Ala Arg Asn Leu Ile Tyr Phe Gly Phe Tyr Asn
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Phe Ser Asp Leu Leu Arg Leu Thr Lys Ile Leu Leu Ala Ile Leu Asp
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Cys Val His Val Thr Thr Ile Phe Pro Ile Ser Lys Met Thr Lys Gly
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Glu Glu Asn Lys Gly Ser Asn Val Met Arg Ser Ile His Gly Val Gly
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Glu Leu Met Thr Gln Val Val Leu Arg Gly Gly Phe Leu Pro Met
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Thr Pro Met Ala Ala Ala Pro Glu Gly Asn Val Lys Gln Ala Glu Pro
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                   950
Glu Lys Glu Asp Ile Met Val Met Asp Thr Lys Leu Lys Ile Ile Glu
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Ile Leu Gln Phe Ile Leu Asn Val Arg Leu Asp Tyr Arg Ile Ser Cys
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                                                  990
Leu Leu Cys Ile Phe Lys Arg Glu Phe Asp Glu Ser Asn Ser Gln Ser
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                           1000
                                               1005
Ser Glu Thr Ser Ser Gly Asn Ser Ser Gln Glu Gly Pro Ser Asn Val
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Pro Gly Ala Leu Asp Phe Glu His Ile Glu Glu Gln Ala Glu Gly Ile
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Phe Gly Gly Ser Glu Glu Asn Thr Pro Leu Asp Leu Asp Asp His Gly
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Gly Arg Thr Phe Leu Arg Val Leu Leu His Leu Thr Met His Asp Tyr
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Pro Pro Leu Val Ser Gly Ala Leu Gln Leu Leu Phe Arg His Phe Ser
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Gln Arg Gln Glu Val Leu Gln Ala Phe Lys Gln Val Gln Leu Leu Val
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Thr Ser Gln Asp Val Asp Asn Tyr Lys Gln Ile Lys Gln Asp Leu Asp
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Gln Leu Arg Ser Ile Val Glu Lys Ser Glu Leu Trp Val Tyr Lys Gly
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Gln Gly Pro Asp Glu Pro Met Asp Gly Ala Ser Gly Glu Asn Glu His
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                               1145
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Ser Ser Tyr Asn Tyr Arg Val Val Lys Glu Ile Leu Ile Arg Leu Ser
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Lys Leu Cys Val Gln Glu Ser Ala Ser Val Arg Lys Ser Arg Lys Gln
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Gln Gln Arg Leu Leu Arg Asn Met Gly Ala His Ala Val Val Leu Glu
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Leu Leu Gln Ile Pro Tyr Glu Lys Ala Glu Asp Thr Lys Met Gln Glu
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Ile Met Arg Leu Ala His Glu Phe Leu Gln Asn Phe Cys Ala Gly Asn
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Gln Gln Asn Gln Ala Leu Leu His Lys His Ile Asn Leu Phe Leu Asn
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Pro Gly Ile Leu Glu Ala Val Thr Met Gln His Ile Phe Met Asn Asn
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Phe Gln Leu Cys Ser Glu Ile Asn Glu Arg Val Val Gln His Phe Val
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His Cys Ile Glu Thr His Gly Arg Asn Val Gln Tyr Ile Lys Phe Leu
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Gln Thr Ile Val Lys Ala Glu Gly Lys Phe Ile Lys Lys Cys Gln Asp
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Met Val Met Ala Glu Leu Val Asn Ser Gly Glu Asp Val Leu Val Phe
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Tyr Asn Asp Arg Ala Ser Phe Gln Thr Leu Ile Gln Met Met Arg Ser
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Glu Arg Asp Arg Met Asp Glu Asn Ser Pro Leu Phe Met Tyr His Ile
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His Leu Val Glu Leu Leu Ala Val Cys Thr Glu Gly Lys Asn Val Tyr
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Thr Glu Ile Lys Cys Asn Ser Leu Leu Pro Leu Asp Asp Ile Val Arg
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Val Val Thr His Glu Asp Cys Ile Pro Glu Val Lys Ile Ala Tyr Ile
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Asn Phe Leu Asn His Cys Tyr Val Asp Thr Glu Val Glu Met Lys Glu
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Ile Tyr Thr Ser Asn His Met Trp Lys Leu Phe Glu Asn Phe Leu Val
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Asp Ile Cys Arq Ala Cys Asn Asn Thr Ser Asp Arq Lys His Ala Asp
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Ser Val Leu Glu Lys Tyr Val Thr Glu Ile Val Met Ser Ile Val Thr
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Thr Phe Phe Ser Ser Pro Phe Ser Asp Gln Ser Thr Thr Leu Gln Thr
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Arq Gln Pro Val Phe Val Gln Leu Cln Gly Val Phe Arg Val Tyr
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His Cys Asn Trp Leu Met Pro Ser Gln Lys Ala Ser Val Glu Ser Cys
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Ile Arg Val Leu Ser Asp Val Ala Lys Ser Arg Ala Ile Ala Ile Pro
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Val Asp Leu Asp Ser Gln Val Asn Asn Leu Phe Leu Lys Ser His Asn
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Ile Val Gln Lys Thr Ala Met Asn Trp Arg Leu Ser Ala Arg Asn Ala
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Ala Arg Arg Asp Ser Val Leu Ala Ala Ser Arg Asp Tyr Arg Asn Ile
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1585 1590
Ile Glu Arg Leu Gln Asp Ile Val Ser Ala Leu Glu Asp Arg Leu Arg
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Pro Leu Val Gln Ala Glu Leu Ser Val Leu Val Asp Val Leu His Arg
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Pro Glu Leu Leu Phe Pro Glu Asn Thr Asp Ala Arg Arg Lys Cys Glu
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Leu Asp Arg Thr Met Glu Gln Ile Val Phe Pro Val Pro Ser Ile Cys
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Glu Phe Leu Thr Lys Glu Ser Lys Leu Arg Ile Tyr Tyr Thr Thr Glu
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Arg Asp Glu Gln Gly Ser Lys Ile Asn Asp Phe Phe Leu Arg Ser Glu
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Asp Leu Phe Asn Glu Met Asn Trp Gln Lys Lys Leu Arg Ala Gln Pro
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                          2220
Val Leu Tyr Trp Cys Ala Arg Asn Met Ser Phe Trp Ser Ser Ile Ser
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Phe Asn Leu Ala Val Leu Met Asn Leu Leu Val Ala Phe Phe Tyr Pro
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Phe Lys Gly Val Arg Gly Gly Thr Leu Glu Pro His Trp Ser Gly Leu
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Leu Trp Thr Ala Met Leu Ile Ser Leu Ala Ile Val Ile Ala Leu Pro
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Lys Pro His Gly Ile Arg Ala Leu Ile Ala Ser Thr Ile Leu Arg Leu
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Asn Val Cys Asn Lys Ile Ile Phe Leu Met Ser Phe Val Gly Asn Cys
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Gly Thr Phe Thr Arg Gly Tyr Arg Ala Met Val Leu Asp Val Glu Phe
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Leu Tyr His Leu Leu Tyr Leu Leu Ile Cys Ala Met Gly Leu Phe Val
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His Glu Phe Phe Tyr Ser Leu Leu Leu Phe Asp Leu Val Tyr Arg Glu
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Glu Thr Leu Leu Asn Val Ile Lys Ser Val Thr Arg Asn Gly Arg Pro
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Ile Ile Leu Thr Ala Ala Leu Ala Leu Ile Leu Val Tyr Leu Phe Ser
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Cys Thr Ser Pro Ala Pro Lys Glu Glu Leu Pro Val Glu Glu Thr
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Glu Gln Asp Lys Glu His Thr Cys Glu Thr Leu Leu Met Cys Ile Val
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Thr Val Leu Ser His Gly Leu Arg Ser Gly Gly Val Gly Asp Val
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Leu Arg Lys Pro Ser Lys Glu Glu Pro Leu Phe Ala Ala Arg Val Ile
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Tyr Asp Leu Leu Phe Phe Phe Met Val Ile Ile Val Leu Asn Leu
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Ile Phe Gly Val Ile Ile Asp Thr Phe Ala Asp Leu Arg Ser Glu Lys
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Gln Lys Lys Glu Glu Ile Leu Lys Thr Thr Cys Phe Ile Cys Gly Leu
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Glu Arg Asp Lys Phe Asp Asn Lys Thr Val Thr Phe Glu Glu His Ile
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Lys Glu Glu His Asn Met Trp His Tyr Leu Cys Phe Ile Val Leu Val
                      2600 2605
Lys Val Lys Asp Ser Thr Glu Tyr Thr Gly Pro Glu Ser Tyr Val Ala
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Met Ser Leu Val Ser Ser Asp Ser Glu Gly Glu Gln Asn Glu Leu Arg
                                    2650
                2645
Asn Leu Gln Glu Lys Leu Glu Ser Thr Met Lys Leu Val Thr Asn Leu
                                                     2670
                               2665
Ser Gly Gln Leu Ser Glu Leu Lys Asp Gln Met Thr Glu Gln Arg Lys
                                                 2685
                            2680
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Gln Lys Gln Arg Ile Gly Leu Leu Gly His Pro Pro His Met Asn Val
                                             2700
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Asn Pro Gln Gln Pro Ala
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      synthetic construct
<220>
<221> VARIANT
<222> 2, 4, 5
<223> Xaa = any amino acid
<400> 24
Gly Xaa Gly Xaa Xaa Gly
<210> 25
<211> 4
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence; note =
      synthetic construct
<400> 25
Arg Arg Asp Ser
<210> 26
<211> 4
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> Description of Artificial Sequence; note =
       synthetic construct
 <400> 26
 Arg Arg Glu Ser
 <210> 27
 <211> 4
 <212> PRT
```

```
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence; note =
      synthetic construct
<400> 27
Arg Arg Asp Glu
 1
<210> 28
<211> 4
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence; note =
      synthetic construct
<400> 28
Arg Arg Glu Glu
<210> 29
<211> 4
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence; note =
      synthetic construct
<400> 29
Arg Arg Glu Ala
<210> 30
<211> 4
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence; note =
      synthetic construct
<400> 30
Arg Arg Asp Ala
<210> 31
 <211> 48
 <212> PRT
 <213> Artificial Sequence
 <223> Description of Artificial Sequence; note =
       synthetic construct
 Gly Tyr Gly Glu Lys Gln Ile Ser Ile Asp Glu Leu Glu Asn Ala Glu
                                      10
  1
```

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